City of McCall

www.mccall.id.us

216 East Park Street
McCall, Idaho 83638

Phone 208-634-7142
Fax 208-634-3038

January 9, 2023

Ms. Linda Jackson
Payette National Forest Supervisor
500 N. Mission Street Building 2
McCall ID 83638-3805

RE: Stibnite Gold Project Draft SDEIS Public Comment

Dear Ms. Jackson,

After review of the Supplemental Draft Environmental Impact Statement (SDEIS) that determined the Forest Service Preferred Alternative is the Modified Mine Proposal submitted by Perpetua Resources for the Stibnite Gold Project, the City of McCall provides the following comments and recommendations for your consideration.

Except for the Social and Economic Specialist Report, the City of McCall is again mostly excluded from the analyses as was the case in the DEIS. As previously stated in our first comment letter (attached and resubmitted with this letter) general references to McCall are made in many narrative sections but no impacts were specifically analyzed for our community even though we are the largest population center in Valley County and will be impacted a multitude of ways that are spelled out below. We believe this is an error on the part of Forest Service that, should the Forest Service approve the proposed mine, needs to be corrected by conducting additional supplemental analyses to provide complete disclosure of the impacts to the public, and provide appropriate information for the consideration of mitigation measures, required by the National Environmental Protection Act, prior to the issuance of the Final EIS and draft Record of Decision.

Traffic and transportation impacts to McCall are insufficiently analyzed based on the Access & Transportation Specialist Report:

The first example of the Forest Service's omission of study data for McCall is in the Access & Transportation analysis. The spatial boundary of the transportation and access analysis is improperly restricted. The SDEIS identifies the analysis area in Figure 3.16.1 (SDEIS, page 3-406) as terminating at the intersection of Hwy 55 as it reaches McCall but excludes local streets through McCall. Yet, the Access & Transportation Specialist Report states that one-third of all mine-related traffic will come through McCall and that mine-related traffic will use the Boydstun-Deinhard route specifically; yet there is no analysis of the traffic volumes or impacts for this northerly route of the mine traffic coming either from the Port of Lewiston down Hwy 95 to Hwy 55 through the northern part of Valley County down to the Warm Lake Road intersection, or for mine traffic traveling north on Hwy 55 from Warm Lake Road once it reaches and travels through McCall. Contrast that with the inclusion of an analysis of the southerly route coming up from Boise on Hwy 55 through Horseshoe Bend and Banks to the Warm Lake intersection. Why was the Northerly route omitted from study? Based on the one-third assumption,

the AADT on this route will be 66 per day for the construction phase and 52 per day for the operations phase totaling 20 years of continuous traffic impacts through this corridor which should not have been ignored. Additionally, the SDEIS and Specialist Report use outdated AADT numbers for Hwy 55, from 2015 and 2016, making any analyses of traffic impacts to this corridor inadequate. Data is not only available for more recent years, but that data shows that there have been significant increases in AADT – 38 percent - from 2015 to 2020. Hwy 55 is a major route for access to McCall, both for business purposes and for tourism. Using appropriate data to analyze the traffic impacts of mine-related traffic on Hwy 55 is imperative to assessing the true impacts to traffic and access the mine traffic may have on those who use the highway to access McCall and other communities in Valley County. The traffic analysis used in the SDEIS admits that the area's population has grown rapidly and is predicted to continue at a "substantial rate". However, the agency contradicts this conclusion by using a static growth population rate for generic rural areas at rate predicted to remain the same or increase at a slower rate (SEIS P. 4-484) in the model used to analyze transportation impacts.

The Northerly route coming through McCall requires analysis and identification of impacts prior to a final EIS and draft Record of Decision due to the following conditions: The Deinhard/Boydstun route through McCall is a local city-owned street, not a state highway, and passes through a residential area along Boydstun and then through residential/commercial/industrial property along Deinhard. The SDEIS did not analyze the traffic, socio-economic, public health and safety, and environmental impacts of this route. The route contains a shared bike/pedestrian pathway system with multiple modes of users on the roadway. McCall's Comprehensive Plan and Pathways Master Plan identify safe, efficient, and interconnected pedestrian and bicycle access and infrastructure as vital to maintaining the character, livability, and quality of life in our town. McCall has spent significant time and resources developing this infrastructure. The SDEIS failed to analyze the impacts to safety and community character of up to 66 significantly large mine-related trucks potentially carrying hazardous materials traveling through this corridor with shared bike/pedestrian access. Additionally, there is an "s" turn that is dangerous in the winter with multiple slide-offs and accidents due to winter weather conditions. (Dodson, D. *Truck drivers prefer downtown over bypass*, The Star News December 29, 2022). The Highway 55 intersections of this roadway, on the south at Deinhard and on the north at Boydstun, were identified in the applicant's Traffic Impact Study submitted to Idaho Transportation Department and Valley County as recently as September 2020 as needing safety improvements to accommodate the turning geometry of their large vehicles.

The SDEIS is silent on the safety improvements required for the large vehicle mine traffic on this roadway and only addresses mine traffic impacts on State Hwy 55 much farther south of McCall. Even the applicant acknowledges that the McCall route is of critical interest to their operation as they are engaged in discussions with the Idaho Transportation Department (ITD) and the City for a cooperative agreement between the three parties to ensure intersection improvements are made in order to accommodate this traffic if the mine is permitted. However, the City does not hold any regulatory permitting authority in this matter and is relying on the good faith of the applicant to enter into an agreement to make these improvements. To ensure the safe movement of mine traffic through our community the City respectfully requests that the Forest Service identify this impact in a second supplemental DEIS with a mitigation measure that the applicant provide intersection improvements identified by ITD and the City of McCall on the Deinhard/Boydstun route, and other safety improvements to mitigate impacts to access and safety to pedestrian and bicycle traffic. Further, the City

requests that no mine traffic with hazardous materials and explosives be allowed to travel through McCall until the mitigation measures for these intersections and travel corridor are constructed.

Next, the Deinhard-Boydstun route crosses the North Fork of the Payette River, which is identified by Idaho DEQ as a section 303(d) impaired waterway under the Clean Water Act with multiple TMDL's in effect. Significant investments have been made by the City, the Idaho Fish and Game Department, the Idaho Department of Environment Quality, the Valley County Soil and Water Conservation District, the National Park System, private non-profit groups and individuals to restore its health as an important part of the overall watershed in this area for fish habitat, recreation and downstream water quality of Lake Cascade. The water quality regulations imposed on the North Fork Payette by Idaho DEQ are so strict that even our community's treated wastewater isn't allowed to be discharged into it; 100% of our treated wastewater is land-applied on neighboring farmland. A hazardous spill into this waterway would be potentially devastating reversing years of investments and have downstream impacts on river users and the quality of Lake Cascade.

The second example of the Forest Service's omission of study data for McCall is the secondary impact, or externality created, by the mine's traffic displacing/disrupting current public traffic volumes from the Warm Lake Route to the lesser traveled and less safe route of Lick Creek Road (McCall-Stibnite Road) to access backcountry recreation areas. The Specialist Report states:

> "As shown in Table 7-2, traffic volumes associated with the 2021 MMP construction would increase approximately 93 percent on Johnson Creek Road and approximately 216 percent on the Stibnite Road portion of McCall-Stibnite Road from Yellow Pine to the SGP. Over a third of the vehicles traveling on these one-lane, native surfaced roads would be comprised of heavy vehicles and would result in slower travel times for non-mine-related traffic and may deter travelers from using these roadways. Travelers may use alternative roadways, including McCall-Stibnite Road and South Fork Salmon River Road, to access the village of Yellow Pine."

The mine's construction and operation will create additional traffic in McCall to access Lick Creek Road that otherwise would not have occurred in our residential neighborhoods and will cause faster deterioration of our local roadways causing maintenance and rehabilitation projects to occur sooner than our Transportation Master Plan has forecast. This raises the cost to our taxpayers to maintain our roadways and will degrade the quality of residential neighborhoods.

The Forest Service should address the impacts of mine traffic and displaced recreational traffic in a second supplemental DEIS.

Hazardous Materials and Safety

The City is highly concerned about any hazardous material spills in our jurisdiction and specifically into the North Fork Payette River and the Big Payette Lake. The McCall area fire departments do not have a HazMat Team nor proper materials to respond to, contain or clean up a spill. According to the McCall Fire District Chief the closest HazMat Team is a minimum of four hours away and McCall Fire is only equipped to issue evacuation notices and clear the scene while waiting for a HazMat Team to arrive. Four hours is a substantial amount of time for hazardous materials to spread into the North Fork of the Payette River and into the air over a populated area.

Since mine traffic is forecasted to occur 5 days/week for 20 years across this river crossing, the risk of exposure to an accident is high especially during winter conditions. Although the traffic and transportation plan contemplate that mine-related traffic will primarily use the Deinhard/Boydstun corridor, there is no prohibition of such traffic from traveling past Big Payette Lake. Big Payette Lake is McCall's sole source of drinking water. Mine-related traffic through downtown past Big Payette Lake is unacceptable for the sole reason of the catastrophic consequences of a hazmat spill. The City previously commented on the importance of protecting Big Payette Lake in its letter to the Forest Service regarding the DEIS dated October 2020.

The applicant has demonstrated a willingness to address this type of issue by providing numerous spill kits along roadways such as Johnson Creek Rd to prevent/quickly respond to accidents along the routes into the Stibnite area and along rivers within the project area. The City respectfully requests that the Forest Service include a mitigation measure in a second supplemental DEIS that the same consideration be given to our community and our protected waterways. The Forest Service should require the applicant to provide HazMat response resources in McCall or another nearby location to allow for a timely response. The Preferred Alternative in the SDEIS discusses at length the company's spill protection plan but that is just for the area within the project. It assumes that spills or accidents occurring outside the project area are the responsibility of the carrier and local authorities. If not for the mine project, these hazardous materials would not be coming through our communities and therefore it should be the company's responsibility to ensure that it is not solely the burden of taxpayer funded local agencies to respond to a spill of magnitude.

The company's plan includes notifying their own staff of when hazardous materials shipments are scheduled and by what route so as to minimize potential dangers. The City requests that the Forest Service require in a second supplemental DEIS that the company notify local public safety and first responder agencies of scheduled hazardous materials shipments and routes for our situational awareness and preparedness.

Climate Change impacts are not adequately addressed in the SDEIS analysis

Attached is a memo describing the City's concerns with the lack of recognition by the Forest Service of the magnitude of impact from the mine's operations on creation of GHG's and the resulting externality created by not requiring mitigation by the company. Those costs will be shifted onto the local communities working to reduce GHG's. The company's GHG generation will substantially outweigh our local efforts to reduce emissions. The City requests that a second supplemental DEIS identify mitigations to address the mine's impact on our regional climate.

Tourism economy impacts

McCall's local economy (as also described in the Social Economic Specialist Report) is dependent on two primary sectors, the tourism/recreation industry and the service industry (financial, construction, medical, real estate, government). The SDEIS recognizes that access to the Idaho backcountry is of important value to this area's culture and economy. The City is highly concerned by findings included in the Recreation Specialist Report such as:

- "..beginning at construction, approximately 13,441 acres of NFS lands (and approximately 780 acres of private patented lands within the Operations Area Boundary) would be inaccessible to dispersed recreation (Figure 7-1a)."
- "Impacts to recreation from the construction of the SGP would be localized, long term, and major."
- "Wildlife in the analysis area would be affected by construction noise, traffic, and activities likely resulting in displacement of wildlife to areas away from the analysis area. Therefore, opportunities to participate in hunting, fishing, wildlife, and bird watching would be displaced as well, relocating use related to these activities to locations away from the SGP within the analysis area, or possibly outside of the analysis area."
- "Due to the changes in the recreation setting from SGP operations, some visitors may choose to participate in recreation opportunities elsewhere in the analysis area or the surrounding management areas where SGP operations would not be visible or audible. Impacts on recreation opportunities at and around the SGP would begin during construction and continue until the mine was decommissioned and the area reopened to dispersed recreation use. Some visitors may choose to remain at their displacement location rather than return to the SGP area due to permanent changes in the recreation setting within the Operations Area Boundary."
- "All action alternatives would result in impacts to recreation access, settings, opportunities, use, facilities, and recreation-related special use permits. SGP would remove this area from recreation use and alter the recreation setting in the surrounding area due to visual changes and noise."
  "The SGP also would affect access to operating areas of three outfitters and guides, affect their ability to provide activities, and may degrade customer's recreation experiences."

According to an economic study of tourism impacts on Idaho published by Visit Idaho (Dean Runyan Associates, Economic Impact of Travel in Idaho, Slide 111 - Valley County Tourism Economic Impact, (2020)), Valley County generated $138 Million of annual spending from tourist visits which is the 8th highest of all counties in the state. Based on the Resource Specialist statements above, the City is highly concerned about the negative economic impact the mine project will have on tourism visits to our county and the corresponding impact to available jobs and earnings for our citizens. Given the traffic congestion on Hwy 55 and on Warm Lake Road that will be created by mine traffic and the close off of traditional recreation areas plus the increased noise, reduced air quality, and impacted aesthetic and visual resources from the operation, it is likely that we will see a decline in tourists visiting our area for backcountry recreation opportunities and that over time our area will develop a reputation of being difficult to access and the areas available for access are more limited and less desirable. The City of McCall relies on local option taxes (lodging taxes) generated from tourism visits to pay for road maintenance and community programs. The City is greatly concerned there will be a negative impact to this revenue stream while at the same time there will be an increased need to use these funds to mitigate mining traffic impacts to our roadways which subsequently further erodes our ability to provide government services to maintain infrastructure and other public amenities. This could have a cascading impact on McCall's recreation-based economy.

Other than the concerning statements from the Specialist Report discussed above, the SDEIS fails to provide any analysis of how changes in recreational access will impact the economy of McCall. These impacts must be

identified and disclosed in a second supplemental DEIS and made available for review and comment. Without this analysis it is impossible to understand how these impacts might be mitigated.

The Forest Service needs to analyze these impacts in a second supplemental DEIS and include specific mitigation requirements for review and comment by the public.

Social and Economic Impacts

McCall like every jurisdiction in Valley County, has a comprehensive plan, passed by its community, that guides what ordinances the jurisdiction passes, what policies it implements, and how it spends its money. Disclosure of impacts the mine will have on our community is paramount to our city leaders making informed decisions on how to mitigate impacts and how the city can use legal and budgetary tools to protect our infrastructure, public services, economy, and community. The socioeconomic impact analysis in the SDEIS is based on the same Highlands Economic Report (20118) from the October 2020 DEIS that states it is a "benefits only" analysis, and statedly did not analyze the cost to the community's recreation-based economy, increased pressure on infrastructure and public services, and potentially significant changes to the social fabric of our community. These are all factors that need to be analyzed and disclosed to the local communities and the public.

The Social and Economic Resource Specialist report summarizes the impact on housing availability, a major concern in our area and top priority for our City Council, as:

- "Housing impacts may be adverse from the overall local area perspective, and concentrated new in-migrant population increases could result in greater impacts within specific communities – especially if those communities are not well equipped to absorb the new residents. For example, while McCall has 4,259 housing units, only 1,440 are occupied year-round by residents (Census 2018). If half of the projected new in-migrant workers selected McCall for their place of residence, that would represent an approximate 3 percent increase in the community's population (3,226 people), which would likely represent and could be perceived by current residents as a noticeable and possibly adverse population effect. As discussed under the Housing Availability and Affordability Section below, the potential for affordable housing impacts would depend on the number of lower-paid, in-migrants relocating to the specific community. As a result, if there is an insufficient existing inventory of suitable housing within the affected communities, adverse affordable housing availability impacts could result during construction activities."
- "...the 198 workers projected to relocate to the local analysis area during the construction phase would be expected to result in a total population increase of up to 438 new residents, which would consist of 240 dependents (113 spouses and 127 children)....in-migration worker population could increase new local housing demand by up to approximately 200 dwellings."
- "..the percentage of Valley County households paying more than 30 percent of their household income on rent grew from 33.5 percent to 59.1 percent between 2010 and 2018 (Census 2010, 2018). This increase indicates that the local housing market is becoming less affordable and that local demand for affordable housing already currently exceeds the available supply in Valley County."

- "An influx of new SGP employees and contractors into the local communities would increase local housing demand. If this in-migration trend continues post-pandemic, there would be a general lack of housing that would be further affected by the housing needs of SGP construction workers. As a result, potential adverse housing availability impacts would likely predominantly result from the approximately 103 workers that may migrate into the local area for the indirect and induced jobs supported by SGP's construction activities. Given the lower typical salaries for the indirect and induced jobs supported by construction activities, the workers in-migrating to the local area for these jobs could increase competition for lower-priced housing, which could in turn contribute to greater scarcity of affordable housing."
- "Adverse affordable housing availability impacts could result from construction and operating activities if there is an insufficient existing inventory of suitable housing within the affected communities. In which case, SGP construction activities could result in adverse impacts to housing availability and affordability within the local area. In addition, this impact would be expected to occur primarily during the start of construction and/or operations phases and then subsequently stabilize in the absence of any further increase in local employment."

The City is extremely concerned by the statements in this Specialist Report that the project will impact housing affordability and availability and concerned that the Forest Service has provided no recommended mitigation for this impact. The City requests that the Forest Service include mitigation requirements for the Social and Economic impacts to our communities, especially as it relates to housing, in a second supplemental DEIS for public review and comment.

Failure to discuss how increased, higher-paying employment opportunities from the proposed mine could potentially shift or impact availability of the population to fill jobs within the local community, including essential government services

The SGP Socioeconomic Report discussed the contributions to the local economy and the direct economic benefits of higher paying jobs from the proposed project. *See* Report at 32. It concludes that "[e]mployment impacts from the SGP would be beneficial, local and regional, moderate to major, and long term." Report at 36. The Report, however, ignores any potential negative impacts that the presence of higher paying jobs may have from a shift in the workforce from current employment opportunities to mine-related jobs.

Valley County has a relatively low unemployment rate, as the Report indicates. *See* Report at 19 (2019 unemployment rate of 4.2 percent). Adding an additional estimated 200+ jobs that local residents will take could drive unemployment rates even lower.

There are negative benefits of a too low of an unemployment rate that the SGP Socioeconomic Report failed to consider. Extremely low unemployment rates make it more difficult to recruit suitable staff. A smaller applicant pool may mean that local businesses and local governments are unable to find suitable candidates leading to inability of businesses to realize economic gains, constraining local business growth, and leading to inefficiencies in local governments and constraints on the ability to provide essential government services.

For example, the SGP Socioeconomic Report states that "[i]t is expected that most of the local construction workers would be adequately qualified and/or trainable for mine operations work and that many construction workers living locally or elsewhere within Idaho would likely accept mine operations jobs." Report at 33. But there is no discussion about how that shift from local construction workers will impact the County or McCall's ability to hire people within the local community with an already low unemployment rate. McCall is already experiencing worker shortages across all sectors of the economy. Businesses are already short staffed and often have to reduce business hours or reduce the number of customers they can accommodate, thereby not realizing their full potential economic gain. The proposed project will significantly exacerbate worker shortages, resulting in business income and business-to-business transactions, unemployment, loss of residents' income, and loss in local taxes as the mine's impacts will suppress or reverse growth in the region's amenity-based economy, which is currently a vital cornerstone of success in our community, and should not be ignored.

Moreover, government services may be significantly reduced as city and county employees may shift to higher paying administrative and construction jobs related to the mine at salaries that our local governments can't compete with, thus decreasing the ability of local governments to provide crucial government services–e.g., emergency services and operations and maintenance of roads and recreation centers–and create economic security.

These potential negative impacts were completely ignored and should be evaluated in a second supplemental DEIS.

Impacts to income were not adequately addressed

The SGP Socioeconomic Report's analysis of the impacts to income suffer from the same flaws as that employment analysis. It does not take into account the reduced ability of Valley County communities to retain or recruit workers in a market that will have even lower unemployment rates. For example, the Report states that the "contribution of relatively well-paying local area employment and labor income from the SGP would result in increased spending and increased economic activity within the local economy . . . ." Report at 37. However, as discussed above, it is likely that local businesses will be incapable of realizing these potential economic gains because of worker shortages. This is already the case in McCall, and the situation will only be exacerbated by current workers shifting to higher paying mine-related employment.

Additionally, the SGP Socioeconomic Report also does not consider lost income due to potential decrease in our recreation-based economy. Potential economic effects the SGP Socioeconomic Report should have considered, but did not, include a decline in spending as potential visitors choose alternative destinations with high quality scenic and recreational amenities undiminished by nearby mining activity and lost jobs and lost annual income in the rest of the economy if the gold mine suppresses or reverses growth in the recreation-based economy that has been the backbone of the region's economic success since the early 1980s.

Analysis of impacts to government revenue fail to consider potential loss of revenue from local option taxes

The SGP Socioeconomic Report concludes that during the construction, operations, and post-closure phases of the proposed mine, there would be negligible tax revenue benefits for the local area's economy. Report at 48, 49, 50. The Report, however, fails to recognize potential impacts of decreased local option tax revenue ("tourism tax") for incorporated cities in Valley County as tourism decreases. McCall, Cascade and Donnelly all have local option taxes that will be impacted, and that impact needs to be addressed in a second supplemental DEIS.

Lack of analysis of social impact to Valley County communities

As discussed above, the SGP Socioeconomic Report only focused on economic benefits from the proposed mine and failed to consider potential negative impacts to these factors. As a result, there is a complete lack of analysis of the social impacts to Valley County communities as a result of potential changes in the economic base of the region, shifts in employment, loss of income, changes in population demographics, and negative impacts on housing, potentially creating significant economic instability and resulting effects on the health and wellbeing of local communities.

It is documented that economic instability is a social determinant of health and wellbeing of local communities. Many mining developments cause indirect economic impacts on nearby communities leading to poor health and wellbeing of local residents:

Studies show that mining developments typically cause an influx in population due to out-of-region mining employees moving closer to work. This leads to an increase in demand for housing and rental properties in communities with insufficient housing supply and inadequate property development, causing an increase in housing proxies. Population influx concurrently leads to an increased in cost of living (defined as inflation at the local level) due to mining workers on higher salaries contributing to the local economy, and also small businesses struggling to retain employees as they migrate to high-paid mining jobs. Consequently, local residents face financial and social pressures, and poorer mental health, where the most vulnerable groups in society succumb to displacement from their local town. Further, mining developments exacerbate pre-existing socioeconomic disparities and income inequalities through the creation of dualization in local communities. This refers to the large divide between those on high salaries working for mining companies and residents who do not work for mining companies on low uninflated wages.

A recent study found mental health deterioration was associated with poor housing affordability, particularly among individuals living in low-income households. Hresc, J., Riley, E., Harris, P., *Mining Project's Economic Impact on Local Communities, as a Social Determinant of Health: A Documentary Analysis of Environmental Impact Statements,* Environmental Impact Assessment Review, Vol. 72, pp. 64-70 (Sept. 2018).

The proposed mine has significant potential to negatively impact economic factors, as discussed above, that are associated with a community's wellbeing. This proposed mine is no exception. But the SGP Socioeconomic Report completely failed to consider potential negative economic impacts, and thus impacts on community health.

Inadequate analysis for reasonably foreseeable future actions

The SGP Socioeconomic Report states that the proposed project, "in addition to the reasonably foreseeable Stallion Gold Horse Heaven mining project, would provide the economic benefits associated with mine operations." Report at 65. There is no discussion, however, of the potential and compounded negative impacts to housing, infrastructure, transportation, social well-being, among others, if another large-scale gold mine comes into the region. The complete failure to discuss the negative impacts of the SGP as well as the negative cumulative impact of another foreseeable large-scale mine in this region requires additional analysis and disclosure in a supplemental DEIS.

Population and Housing

The analysis of the impacts to housing availability and affordability in Valley County and its incorporated communities is confusing, uses unsupported assumptions to minimize the disclosed impacts, fails to consider available local information in the analysis, and is, overall, inadequate.

First, the SGP Socioeconomic Report states that at the start of construction, there is a "predicted in-migration of approximately 450 workers [that] would need housing." Report at 41. And although the Report anticipates that there will be less need for housing once "on-site worker housing" is completed, it provides absolutely no analysis of the impacts of this sudden and drastic influx of people on Valley County's housing market. Given the Report's finding that 450 workers will suddenly need to secure housing in Valley County and the "number of currently available homes for sale or rent [in Valley County] is limited" to 321 homes, Report at 45, how can the Report conclude that "[h]ousing impacts would be beneficial, local and regional, minor to moderate, and long term"? Report at 42.

Moreover, the Report assumes–without any basis–that the peak effect of 450 new workers needing housing will "diminish following completion of the on-site worker housing." Report at 41. This statement presumes that most of these 450 workers–which is anticipated they will stay on working for the mine during operations–will live full-time at the mine site once on-site worker housing is completed and no longer need the homes they've secured in Valley County. However, the supplemental DEIS states that workers will work only two-week shifts, returning to their homes in between. What is the basis for concluding that these workers, who initially secured housing prior to the construction of on-site worker housing, will not keep their housing once operations start, and therefore decrease the pressure on the housing market?

Other baseless assumptions that the Report makes in an attempt to explain away potential significant and adverse impacts on the area's housing availability are:

- Assumption that the "increased prevalence of multi-generational households" may result in a "sizable number of the in-migrating population [ ] tak[ing] up residence with friends or relatives that are existing residents." While the Highlands Economic Report (2018), pg. 7, provides figures for national growth in multi-generational households, there is no indication that is the trend in Valley County. For example, the increase nationally may be attributable to the increase in non-Caucasian populations who traditionally live in multi-generational households. It could also be a function of the significant increases in home prices and the general lack of availability–and not by choice–which can have significant social impacts on

families and communities. *See* Pew Research Center, *Financial Issues Top List of Reasons U.S. Adults Live in Multi-generational Homes* (Mar. 24, 2002)

- Assumption that in-migrating SGP employees, because of the two-week shift work, would have "more housing opportunities" by potentially renting or purchasing "occasional use" second homes using "temporary housing in motels or trailer parks." Reliance on these assumptions to justify a finding that there will be little to no adverse impacts to housing availability fails to take into account the fact that these in-migrating employees may come with families that would need stable housing in the community; that second home owners probably will not be willing to rent out their homes to these workers since they haven't been willing to rent them out as vacation rentals or for needed rental housing for current local employees and post-COVID with more teleworking options, those second homes may not be available anymore as a rental or for sale; that there is already a lack of availability of trailer park options because many residents live full-time and long-term in local trailer parks due of the lack of affordable housing.

Finally, the Report does an extremely simplistic and inadequate analysis of how the anticipated in-migrant workers will impact the current availability and affordability of the local housing market. The SGP Socioeconomic Report does a simple comparison to the number in-migrant workers against what it considers "available" housing units, concluding that the impact to housing will be minimal because there are more "available" homes (321 units) than anticipated in-migrant workers (198 workers). Report at 45. However, the analysis fails to consider data from the communities themselves on actual housing needs. For example, the McCall Housing Strategy (2018) identified that 730 local housing units were needed to address housing shortages for local residents and employees in McCall alone. Those in-migrants in particular that will be working at lower wage jobs will further exacerbate and compound an already significant housing shortage in our community. The SGP Socioeconomic Report fails to disclose the true impacts to this community with its simplistic comparison of anticipated in-migrant workers with irrelevant numbers of what it considers to be "available" housing.

Disclosure in the SDEIS of how the proposed mine may exacerbate the lack of availability of affordable housing for those low-income earners who are vital to the economic and social fabric of our community is necessary to understand so that the City can direct its legal, political, and budgetary power in a direction that will have the most effectiveness. It is also necessary information to have and understand so that mitigation measures can be implemented in the final EIS and Record of Decision.

After careful consideration of the SDEIS and the related documents attached herein, along with public comment submitted to the City Council regarding the DEIS and SDEIS attached herein, the City of McCall recommends the Forest Service:

a. prepare additional Supplemental Analyses that address the real and specific concerns of our community as identified above prior to issuing a final EIS and draft Record of Decision, and
b. propose specific mitigations to the real and specific concerns of our community as identified above and allow for comment on those mitigations prior to issuance of a Final EIS and draft Record of Decision, or

c. if Supplemental Analyses will not be prepared, then we recommend the No Action Alternative be selected.

The City of McCall looks forward to receiving a response from the Payette National Forest Service Supervisor to the specific impacts and concerns listed above. We respectfully request that you address these concerns prior to the issuance of the final EIS and your draft Record of Decision so that the operations of the mine do not negatively impact our community.

Sincerely,

Robert S. Giles

Robert S. Giles
Mayor

RSG:abs

CC: McCall City Council
McCall Fire District

Attachments: DEIS Comment letter from City of McCall (October 2020)
Memo from Meredith Todd regarding Climate Change (November 2022)
Dean Runyan Associates, Economic Impact of Travel in Idaho, Slide 111 - Valley County Tourism Economic Impact, (2020)
City of McCall 2021 Housing Strategy
Hresc, J., Riley, E., Harris, P., *Mining Project's Economic Impact on Local Communities, as a Social Determinant of Health: A Documentary Analysis of Environmental Impact Statements,* Environmental Impact Assessment Review, Vol. 72, pp. 64-70 (Sept. 2018)
Pew Research Center Report, Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes (March 2022)
Idaho Headwaters Study Group Economic Impact Study (December 2022)
Public comment submitted to City Council (December 2022 and January 2023)
Dodson, D. *Truck drivers prefer downtown over bypass*, The Star News (December 29, 2022)

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216 East Park Street
McCall, Idaho 83638

Phone 208-634-7142
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October 12, 2020

Ms. Linda Jackson
Payette National Forest Supervisor
500 N. Mission Street Building 2
McCall ID 83638-3805

RE: Stibnite Gold Project Draft EIS Public Comment

Dear Ms. Jackson,

The City of McCall submits the following comments for your consideration in preparation of the Final Environmental Impact Statement and Record of Decision for the Stibnite Gold Project.

After review of the DEIS, it appears that the City of McCall is mostly excluded from the analyses. General references to McCall are made in many narrative sections but no impacts were specifically analyzed for our community. We believe this is in error based on section 2.3.5.19 Operations Traffic which states that:

> The estimated annual average traffic during mining and ore processing operations is provided in Table 2.3-7. Supplies and deliveries for the mine site during operations would access the SGLF using State Highway 55 to Warm Lake Road. Approximately two-thirds of all mine-related traffic would originate south of Warm Lake Road and would use State Highway 55 through Cascade and other communities along State Highway 55 south of Cascade including Banks and Horseshoe Bend. Approximately one-third of all mine-related traffic originating north of Warm Lake Road would use State Highway 55 through the communities of Donnelly, Lake Fork, and McCall. Through McCall, mine-related traffic would generally use Deinhard Lane and Boydstun Street.

Alternative 2, which is the preferred alternative of the applicant, proposes additional transportation impacts due to the Centralized Water Treatment Plant and includes a statement that:

> During mine operation, the Centralized WTP is expected to require the following chemicals and reagents on an annual basis. Sodium Hypochlorite – 15,000 gallons Ferric Sulfate – 125,000 gallons/year Hydrated Lime – 250 tons Organic Flocculant (polymer) – 1,900 gallons Sulfuric Acid – 2,400 gallons Sodium Bisulfite – 2,000 gallons Organic sulfide precipitant, if needed Transport of these chemicals and reagents would add approximately 40 round trips for delivery to the operational AADT presented in Table 2.4-3. An estimated 2 to 4 employees would be required to operate the Centralized WTP.

In all alternatives, except the No Action Alternative, the estimate of one-third of all mine related traffic traveling through McCall remains the same. The DEIS further identifies the types of hazardous materials and explosives that will be transported on and off-site but does not identify which materials will come through McCall or at what volume. We therefore assume that one-third of all materials will come through McCall

posing safety and transportation impacts on our community which should be addressed in your Final EIS. Mitigation measures to address these impacts should be included in the Record of Decision.

Deinhard/Boydstun impacts and proposed mitigation measures

The Deinhard/Boydstun route through McCall as identified in section 2.3.5.19 Operations Traffic is a local city street and passes through a residential area along Boydstun and then through residential/commercial/industrial property along Deinhard. The City agrees that if mine traffic will come through McCall then Deinhard/Boydstun should be the required route through McCall. The alternative route would be for the mine traffic to remain on State Highway 55 (West Lake Street/3rd Street) which travels along Big Payette Lake and through our downtown. This route contains dense residential and commercial neighborhoods, a narrow Right of Way with bike lanes, a 90 degree turn in the heart of downtown, numerous pedestrian crossings, and hundreds of driveway accesses, all of which creates a high number of potential conflicts and traffic delays. Additionally, Big Payette Lake is the sole source of drinking water for the City of McCall and we cannot afford a hazardous material spill into the lake.

While the Deinhard/Boydstun route is specifically identified in the DEIS, the DEIS did not analyze the socio-economic, public health and environmental impacts of this route. The route contains a shared bike/pedestrian pathway system with multiple modes of users on the roadway. It travels through a populated residential area. There is an "s" turn that is dangerous in the winter with multiple slide-off's and accidents due to winter weather conditions. The Highway 55 intersections of this roadway, on the south at Deinhard and on the north at Boydstun, were identified in the applicant's Traffic Impact Study submitted to Idaho Transportation Department and Valley County as recently as September 2020 as needing safety improvements to accommodate the turning geometry of their large vehicles.

The DEIS is silent on the safety improvements required for the large vehicle mine traffic on this roadway and only addresses mine traffic impacts on State Hwy 55 much farther south of McCall. Even the applicant acknowledges that the McCall route is of critical interest to their operation as they are engaged in discussions with the Idaho Transportation Department (ITD) and the City for a cooperative agreement between the three parties to ensure intersection improvements are made in order to accommodate this traffic if the mine is permitted. However, the City does not hold any regulatory permitting authority in this matter and is relying on the good faith of the applicant to enter into an agreement to make these improvements. To ensure the safe movement of mine traffic through our community the City respectfully requests that the Forest Service include a mitigation measure in the Record of Decision that the applicant provide intersection improvements identified by ITD and the City of McCall on the Deinhard/Boydstun route. Further, the City requests that no mine traffic with hazardous materials and explosives be allowed to travel through McCall until the mitigation measures for these intersections are constructed.

The DEIS did not analyze the environmental impact of using the Deinhard/Boydstun route. The route crosses the North Fork of the Payette River which is identified by Idaho DEQ as a section 303(d) impaired waterway under the Clean Water Act with multiple TMDL's in effect. Significant investments have been made by the City, the Idaho Fish and Game Department, the Idaho Department of Environment Quality, the Valley County Soil and Water Conservation District, the National Park System, private non-profit groups and individuals to restore its health as an important part of the overall watershed in this area for fish habitat, recreation and downstream water quality of Lake Cascade. The water quality regulations imposed on the

North Fork Payette by Idaho DEQ are so strict that even our community's treated wastewater isn't allowed to be discharged into it; 100% of our treated wastewater is land-applied on neighboring farmland. This is in stark contrast to the alternatives in the DEIS to allow treated water discharges into the EFSFSR.

The City is highly concerned about any hazardous material spills into the North Fork Payette River. The McCall area fire departments do not have a HazMat Team nor proper materials to respond to, contain or clean up a spill. According to the McCall Fire District Chief the closest HazMat Team is a minimum of four hours away and McCall Fire is only equipped to issue evacuation notices and clear the scene while waiting for a HazMat Team to arrive. Four hours is a substantial amount of time for hazardous materials to spread into the North Fork of the Payette River and into the air over a populated area. Since mine traffic is forecasted to occur 5 days/week for many years across this river crossing, the risk of exposure to an accident is high especially during winter conditions. This is an important impact that should be included in the Final EIS.

The applicant has demonstrated a willingness to address this type of issue by providing numerous spill kits along roadways such as Johnson Creek Rd to prevent/quickly respond to accidents along the routes into the Stibnite area and along rivers. The City respectfully requests that the Forest Service include a mitigation measure in the Record of Decision that the same consideration be given to our community and our protected waterways. The Forest Service should require the applicant to provide HazMat response resources in McCall or another nearby location to allow for a timely response. I have attached an email from the McCall Fire Department with recommendations for a HazMat resource and how it could benefit the larger Valley County community.

Recreation economy impacts

McCall's local economy is dependent on two primary sectors, the tourism/recreation industry and the service industry (financial, construction, medical, real estate, government). The City is a launching point to the backcountry via Lick Creek Road, Warren Wagon Road, and multiple charter air services from our local airport. The alternatives analyses identify the recreation resources of the Stibnite Mine study areas and recognizes that access to the Idaho backcountry is of important value to this area's culture and economy. The City respectfully requests that the alternative selected for the Final EIS retains the most public access to the backcountry as possible and preserves as much of the natural resources in the area as possible.

While the DEIS does not identify Lick Creek Road as a primary access for mine traffic, it is being used now for mine access by Stibnite Gold employees. For mine traffic to utilize Lick Creek Road, it must travel off of State Hwy 55 through densely populated residential areas past two public schools along roads not designed for this type/volume of traffic. The consequences of an accident or spill in this area are high. The City respectfully requests that the alternative selected for the Final EIS specifically does not allow for mine traffic on Lick Creek Road. Use of Lick Creek Road should be reserved only for the general public's use so as to prevent conflicts with mine traffic and provide the public an alternative to Warm Lake Road for backcountry access.

Summary of impacts City requests be included in the Final EIS

The City respectfully requests the Forest Service Identify and analyze impacts to the North Fork Payette River, a 303(d) impaired waterway, from hazardous materials and explosives transported to and from the

mine using the Deinhard/Boydstun route, including but not limited to, the lack of timely hazardous materials response which will negatively impact human health and the health of other species in the event of an accident.

The City respectfully requests that the alternative selected for the Final EIS retain the most access to the backcountry by the public as possible. The alternative should specifically disallow mine traffic on Lick Creek Road. Use of Lick Creek Road should be reserved for only the general public's use so as to prevent conflicts with mine traffic and provide the public an alternative to Warm Lake Road for backcountry access.

Summary of mitigation measures City requests in the Record of Decision

The City respectfully requests that applicant provide Highway 55 intersection safety improvements identified through a cooperative agreement made with ITD and the City of McCall on the Deinhard/Boydstun route. Further, the City requests that no mine traffic with hazardous materials and explosives be allowed to travel through McCall until the safety improvements for these intersections are constructed.

The City respectfully requests that applicant provide HazMat response team resources in McCall or another nearby location to ensure timely containment and response to hazardous materials spills as recommended by the McCall Fire District.

Sincerely,

Robert S. Giles
Mayor

RSG:abs

CC: McCall City Council
McCall Fire District

Attachment: Email from McCall Fire District

City of McCall
COMMUNITY DEVELOPMENT

www.mccall.id.us

216 East Park Street
McCall, Idaho 83638

Phone 208-634-7052
Main 208-634-7142
Fax 208-634-3038

Subject: SGP Supplemental DEIS – Climate Change Impacts
From: Meredith Todd, Assistant City Planner
Date: November 30, 2022

The intention of this Memorandum is to analyze the Stibnite Gold Project Draft Environmental Impact Study - Climate Change Special Report (August 2022) and provide feedback on relevant impacts to the city and its residents, if applicable. Context and general commentary are provided in some cases needed to express the complex relationships between regional activities in the climate sciences.

Summary: McCall is a diverse, small town united to maintain a safe, clean, healthy, and attractive environment. It is a progressive community that is affordable and sustainable. There are specific unknowns that should be addressed within the DEIS Climate Change Specialist Report to allow for the City of McCall and our community to best actualize our vision.

This memorandum focuses on the need for a thoroughly conducted analysis of the influence of the SGP on climate change through a greenhouse gas emissions analysis and inclusion of common climate mitigation solutions available to Perpetua/SGP to address the relevance of the following:

1) **Data Analysis**: There is a need for accurate regional measurements and statistics that can alter the long-range needs for City infrastructure planning - including our own efforts as a municipality to mitigate climate change impacts occurring within our city boundaries and beyond city boundaries – these data and mitigation projections are essential to our operations to best serve our residents, businesses and workforce;

2) **Energy Use & Infrastructure:** The impacts anticipated on the local/regional power-grid customers given the large increase in energy demand that is likely to influence rates for city energy users if no additional energy generation infrastructure is provided by SGP/Perpetua to offset the increase in demand estimated within the DEIS Specialist Report. Any new generation requirements should be in the form of renewable energy in order to mitigate climate impacts.

3) **Climate Mitigation Opportunities:** There is some likelihood of lost opportunity for the City and greater community to benefit from climate change impact mitigation, or "environmental design features" on the part of SGP/Perpetua in the 2021 MMP with no mitigation of substance proposed at this time. Reasonable mitigation that aims to be aligned with IPCC recommendations and adequately addresses climate change should likely include investment in

off-site emissions mitigation given the scale and intensity of emissions generated by the proposed project (direct, indirect and not-yet-measured);

We would respectfully request an inventory of both the "No Action" Alternative and 2021 MMP Alternative, identified as preferred by the USFS.

1) Data Analysis: The Climate Change Specialist Report for the SGP DEIS states "the 2021 MMP has the potential to impact public health and safety through the transportation and use of fuel and chemicals, natural environmental hazards, economic impacts, changes to public services and infrastructure, and impacts to the local population" (p. 37, Payette & Boise National Forest, 2022). In relation to climate change, each of these sectors cited to be potentially impacted have measurable climate related impacts that were not adequately assessed through an accurate greenhouse gas emissions analysis including all standard scopes of measurement. As of March 2022, at least 194 gold mines across 35 countries have conducted accurate Greenhouse Gas Emissions Inventories in accordance with the World Resource Institute's Global Protocol for Corporate GHG Accounting & Reporting (Fimmano, 2022; Ranganathan et al., 2015). At this time, the greenhouse gas emissions analysis conducted has a scope that is limited beyond the accepted methodology for emissions accounting and does not provide the data necessary for the city to measure and mitigate the emissions sources and activities likely to be added to the community by the SGP proposal. Unknowns relating to necessary, measurable data that are essential to the City's goals of mitigating climate change are summarized as follows:

- Transportation: The DEIS Climate Report only identifies the Vehicle Miles Traveled (VMT) along the access road from Highway 55 to the Central Mining Site. There is reference to trip generation, vehicle miles traveled, and infrastructure use in regional cities (including the City of McCall), but there is no report or attempt to quantify this usage of McCall/McCall Area Roadways, Service Stations, or other facilities that is acknowledged within this Climate Report.
    - Common metrics in transportation that should be projected would include, but not be limited to:
        - Frequency and distance travelled of SGP/Perpetua workforce members living on-site traveling to
            - Grocery stores in McCall
            - schools where workforce members children may attend
            - activity/recreation areas and offerings in McCall
        - Frequency and distance travelled of SGP/Perpetua workforce members living off-site, outside of McCall City Limits traveling to
            - SGP Transfer Site off Highway-55 or SGP Main Site
            - Grocery stores in McCall
            - schools where workforce members children may attend
            - activity/recreation areas and offerings in McCall
        - Frequency and distance travelled of SGP/Perpetua workforce members living off-site, inside of McCall City Limits traveling to
            - SGP Transfer Site off Highway-55 or SGP Main Site

- Grocery stores in McCall
- schools where workforce members children may attend
- activity/recreation areas and offerings in McCall

It is also unclear based on the provided Fleet Vehicle and Commuting analysis whether the fuel efficiencies and types analyzed reflect the actual vehicles that are likely to be on the market and road 20-40 years into the future, the proposed lifespan of SGP.

2) Energy Use & Infrastructure: The DEIS Climate Report provides a rough estimate of Energy Use/Emissions potential totaling roughly 394,200 MWh (or ~45MW) of energy demand that would be added to the existing Idaho Power grid with no additional generation proposed. This is an approximate annual emissions amount of ~97,000 Tons of CO2e being added to our region's emissions that does not currently exist (Payette & Boise National Forest, 2022). The 'Indirect' energy-use-driven emissions are not identified as actionable for mitigation within the SGP "Environmental Design Features," however, energy mitigation is one of the most common environmental mitigation actions available to Gold Mines due to the high impact of grid-tied energy on overall project emissions. If the correct GHG Emissions Analysis Protocol cited previously were pursued, these emissions would fall into the category of "Scope 2" emissions (Ranganathan et al., 2015; Chaplin, 2022). For context, the addition of 45 MW of energy demand to the grid we share is the equivalent amount of energy generated by a 280-acre solar-farm. Without addition of energy generation to the Idaho Power Grid to mitigate the additional demand and mitigate resulting emissions, the increase in grid-based emissions would be the responsibility and financial burden of Idaho Power Customers, including the City and its residents to solve.

- Local Infrastructure Demand: It is unknown at this time to what extent the SGP proposals may increase demand for new housing, transportation, commercial, or public health infrastructure. If these socio-economic variables have been quantified elsewhere, they should be analyzed within the SGP Greenhouse Gas Emissions Analysis as direct additions to the City's Greenhouse Gas Emissions Inventory for the projected LOM.

3) Climate Mitigation Opportunities: Without an accurate, quantitative Greenhouse Gas Emissions Analysis included that addresses the measurable and crucial variables identified above, as well as other sources and activities described within the leading methodologies (including Scope 1 – Direct/Source based emissions; Scope 2 – Indirect/Activity-based emissions; and Scope 3 – Sources & Activities within the complete supply chain) it is likely that common and attainable climate change and greenhouse gas mitigation projects will not be available that would likely benefit the City in efforts to achieve our climate mitigation goals. The (under)estimated total emissions of SGP under the MMP 2021 scenario are cited as at least 301,845 Tons of CO2e per year (mean; average) throughout the LOM. The "Environmental Design Features" proposed by Perpetua/SGP to address climate change appear at present to include only:

- "All off-highway diesel engines would be EPA Tier IV or better"
- "Perpetua would utilize 'smart grid' technology to reduce energy consumption, such as auto dimming lights in offices."

These design features do not include a projected amount of GHG Mitigation over the LOM or annually, although it is possible to project these with a complete analysis (p. 9, Payette & Boise National Forest, 2022).

It is likely that if SGP/Perpetua were to be required to mitigate GHG Emissions generated by the real Scope 1 and Scope 2 emissions tied directly to emissions that would not otherwise be generated without SGP (in reference to the No Action Alternative), mitigation should be required through both on-site and off-site strategies to account for the scale of emissions generated(Ranganathan et al., 2015). The City of McCall and other regional entities would seek to gain substantially from a data-driven requirement for off-site climate mitigation strategies such as the generation of new renewable energy to mitigate new energy demand related to SGP; and investment in zero-carbon transportation infrastructure such as funding public electric vehicle charging, provision of electric public transportation and protection of our water supply, stream beds, and regional ecosystems to mitigate emissions beyond those generated by energy use, to name a common few.

Conclusion: The Climate Change Specialist Report on the proposed impacts of the Stibnite Gold Project on the local climate system acknowledges there will be greenhouse gas emissions inherent to the operations of the proposed mine. However, it inaccurately suggests that these measurable impacts, some identified and some yet-to-be-identified, are either not worth measuring or not essential to mitigate because climate change itself is a global phenomenon. This analysis does not consider the responsibility and initiative being taken by cities such as the City of McCall, and broader communities such as our own for mitigating the greenhouse gas emissions that we generate directly and indirectly as part of the broader regional, state, federal and global systems that drive and are already impacted by the early effects of climate change. Without the acknowledgement of responsibility for and commitment to mitigating measurable/proposed emissions, the MMP 2021 is likely to at least double the efforts necessary for the City of McCall and broader community to mitigate our regional greenhouse gas emissions if approved, in comparison to the No Action Alternative.

It should be clearly stated that without an accurate and comprehensive greenhouse gas emissions analysis for the proposed Lifetime of Mine and subsequent Water Treatment timeline, and without requirement for mitigation of the GHG emissions added to the current levels, it is unlikely that the City of McCall or neighboring communities will benefit from climate & GHG mitigation initiatives that should be provided by Perpetua/SGP. Instead, the addition of these unmitigated emissions (lifetime emissions of at least 4,996,546 Metric Tons CO2e over the 20 year LOM) to our broader community emissions portfolio, will fall on the shoulders of the City of McCall, neighboring Cities, and the Valley County community at large to address.

Sources:

Chaplin, W. (2022, March 31). *Good as gold? how can miners avoid ESG pressures tainting the precious metal?* Critical Resource. Retrieved November 29, 2022, from https://www.c-resource.com/2022/03/31/good-as-gold-how-can-miners-avoid-esg-pressures-tainting-the-precious-metal/

Fimmano, M. (2022, May 5). *GHG series (part 5 of 5): Abatement of GHG emissions in gold mining*. CSA Global. Retrieved November 30, 2022, from https://www.csaglobal.com/abatement-of-ghg-emissions-in-gold-mining/

Payette & Boise National Forest, Stibnite Gold Mine - Climate Change Specialist Report (2022). United States Forest Service. Department of Agriculture.

Ranganathan, J., Corbier, L., Bahtia, P., Schmitz, S., Gage, P., & Oren, K. (2015). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition). Washington, D.C.; World Resources Institute.

Valley County / Detail Trend

Direct Travel Impacts & Visitor Volume 2011-2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Avg. Annual % Chg. 2019-20	Avg. Annual % Chg. 2011-20
Direct Economic Impacts ($Millions except Employment (Jobs))												
Total Direct Spending	74.5	78.9	86.7	92.2	95.8	98.6	106.6	113.6	128.6	138.0	▲ 7.3%	▲ 6.4%
Other Travel*	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.5	▼ -24.7%	▲ 4.2%
Visitor Spending	74.1	78.5	86.3	91.8	95.4	98.1	106.0	113.0	127.9	137.5	▲ 7.5%	▲ 6.4%
Overnight	71.9	76.2	83.9	89.3	92.8	95.4	103.1	110.1	124.7	134.1	▲ 7.6%	▲ 6.4%
Day	2.2	2.3	2.4	2.6	2.6	2.7	2.9	2.9	3.2	3.3	▲ 4.0%	▲ 4.2%
Visitor Spending	74.1	78.5	86.3	91.8	95.4	98.1	106.0	113.0	127.9	137.5	▲ 7.5%	▲ 6.4%
Non-transportation	64.9	68.9	76.4	81.9	87.0	90.2	96.8	103.2	117.6	128.0	▲ 8.9%	▲ 7.0%
Transportation	9.2	9.6	9.9	9.9	8.4	8.0	9.2	9.8	10.3	9.4	▼ -8.7%	▲ 0.2%
Total Direct Earnings	21.1	22.9	23.9	26.9	28.9	30.2	33.7	37.8	41.3	42.6	▲ 3.1%	▲ 7.3%
Total Direct Employment	1,030	1,050	1,080	1,180	1,220	1,220	1,310	1,420	1,480	1,410	▼ -4.7%	▲ 3.2%
Government Revenue	6.1	6.6	7.1	7.7	8.3	8.7	9.6	10.3	11.6	12.3	▲ 6.6%	▲ 7.2%
Local Revenue	0.8	0.9	1.0	1.1	1.2	1.2	1.3	1.7	1.8	1.9	▲ 4.3%	▲ 8.9%
State Revenue	5.3	5.7	6.2	6.7	7.1	7.5	8.2	8.7	9.7	10.4	▲ 7.1%	▲ 6.9%

*Other Travel includes resident air travel and travel arrangement services.

McCall

In Motion

City of McCall Housing Strategy

City of McCall

2018

City of McCall

ZIONS® ZBPF PUBLIC FINANCE

LOGANSIMPSON

McCall

CONTENTS

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Chapter 1: Overview and Executive Summary

McCall has a substantial number of second homes and short-term vacation rentals, as well as a high percentage of employment in hospitality industry sectors that serve the tourism and second-home markets. These employment sectors include accommodation and food services, retail trade, arts, entertainment, and recreation industries. Average wages in hospitality-related industries in McCall are lower than the average wages citywide, and employees in this sector are faced with a shortage of housing. In order to maintain the small-town feel of McCall and meet the vision of the McCall Area Comprehensive Plan, residents should be able to live and work in the City. The largest demand for housing comes from the local workforce who would benefit from new units throughout the City. This report examines the current and projected housing situation in McCall and makes recommendations for future housing policies that will meet the needs of McCall as an emerging mountain-town.

A GUIDING DOCUMENT

THE 2018 HOUSING STRATEGY IS A GUIDING DOCUMENT INTENDED TO PROVIDE FOR LOCAL HOUSING FOR THE MCALL AREA. AS A GUIDING DOCUMENT, SPECIFIC RECOMMENDATIONS MAY REQUIRE CITY COUNCIL APPROVAL.

Major Findings

Demographics

- McCall grew significantly from 2000 to 2010, from 2,206 persons to 3,003 persons, or an average annual growth rate of 3.13 percent;
- McCall's full-time population has remained flat since 2010;
- The daytime population is 5,127 persons, due to the large number of commuters into McCall for employment;
- The average household size is 2.91 persons;
- The median household income in McCall is $49,141; in comparison, the median household income in the United States is $59,039;[1]
- The median age is 45.5 years, significantly higher than the U.S. average of 37.8 years; and

Employment

- Hospitality-related industry sectors account for nearly half of employment in McCall: Accommodation & Food Services = 23% of all employment; Retail Trade = 17%, and Arts, Recreation & Entertainment = 6%;
- The above-listed hospitality sectors are among the five lowest-paying industry sectors in McCall;
- 39% of McCall households have 2 or more workers, higher than the County (28%) and the State (34%);
- Major employers in the McCall Area include the U.S. Forest Service, McCall-Donnelly School District, Ridley's Market, and St. Luke's Medical Center.
- 82% of employees in McCall live outside of the City and commute into the City to work; and

[1] www.businessinsider.com/us-census-median-income-2017-9

- 40.5% of commuters are traveling greater than 50 miles to work in McCall, which significantly impacts employees, families, and their involvement in the McCall community beyond their work shift. Employees commuting less than ten miles make up 38.5% of commuters, while 12.8% travel 10 to 24 miles and 8.3% travel a significant 25 to 50 miles to their job.

Land Use

- McCall has undeveloped land, but much of it is on the outskirts of the City or in the Area of Impact, and may not be ideal for locally-serving housing because it is not close to essential services such as grocery stores, medical services, child care or public transit;
- Today, half of the City's land is zoned for, or occupied by, single-family residential housing; and
- Many primary homes are being converted to second homes and short-term rentals, thereby contributing to the recent minimal growth of the year-round population.

Housing

- The median home value in McCall is $206,800, which is higher than the State median value of $162,900, but lower than the County median value of $221,500.[2]
- Only 27% of housing units in McCall are owner-occupied;
- There is a lack of long-term rental availability in the City – most rentals are seasonal;
- Based on HUD guidelines for affordability, the maximum home prices for the following groups are as follows:

TABLE 1: HOME PRICE AFFORDABILITY BASED ON HUD GUIDELINES

30% AMI	30%-50% AMI	50%-80% AMI	80%-100% AMI
$17,093	$72,205	$155,024	$210,197

- Because homes cannot be purchased for the amounts shown for the under 50% of AMI population, rental units need to be available for this group. No more than 30 percent of incomes, based on HUD guidelines, should be spent on housing and utilities;
- Affordable short-term rental units are lacking in McCall; and
- The City lacks at least 700 units (rental or owner-occupied) for the local workforce based on current household incomes; there are even more units needed when commuters are considered.

Recommendations

McCall will need to use a combination of several funding strategies in order to achieve its housing goals. Without a dedicated funding source, the community will not have sufficient funds to implement many of the housing strategies. The applicability of various strategies may also change over time, as economic conditions change. For example, increasing the local option tax (LOT) would be a good option for McCall, which could increase its current revenues of $1.1 million annually, just by increasing the one percent charged on all non-grocery retail sales to two percent.

Funding and Implementation Tools

Several funding and implementation tools were considered in this report, including:

- Urban Renewal District (URD)

[2] Source: 2015 American Community Survey (ACS)

- Land Banking
- Creative Micro and Tiny Housing Development
- Inclusionary Housing Ordinance
- Expedite Approvals for Price-Restricted Projects
- Local Option Tax (LOT) – Tourism
- Accessory Dwelling Units
- Federal Housing Tax Credits
- Community Land Trust (CLT)
- Business Housing Co-Op
- City Employee Housing Program
- Transferable Development Rights (TDR)
- Green Initiatives

The following are the tools that were determined to be the most viable for McCall:

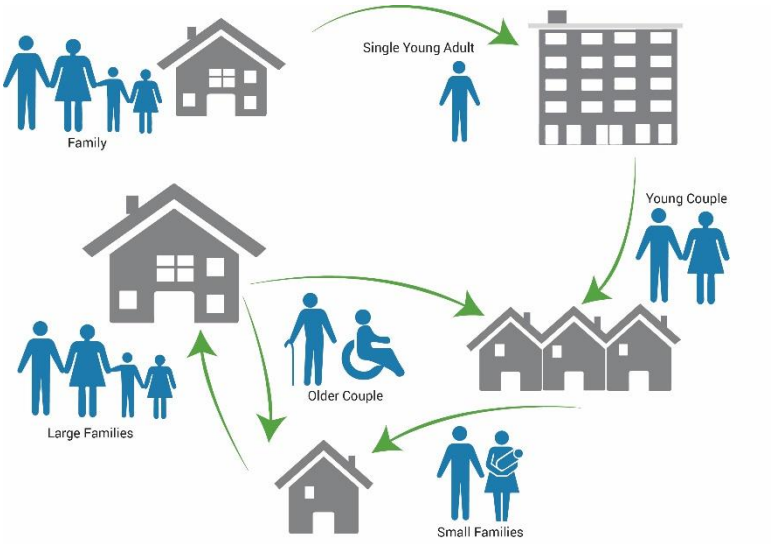
- Land banking
- Small home/manufactured housing developments
- Urban Renewal Area (URD)
- Local option taxes
- Other

These strategies are discussed in more detail in Chapter 6: Housing Strategies and Implementation Plan.

Chapter 2: Existing Conditions

Existing conditions are evaluated in terms of current demographic profiles of the community, as well as current land use patterns. Demographic groups and stages of the lifecycle play an important role in determining housing needs. It is important for a community to meet the needs of residents at all ages so that young families can live in a community and older residents can "age in place."

Life-Cycle Housing



Population

Population statistics for McCall vary slightly depending on the source, but are around 3,000 persons. Based on United States 2000 and 2010 Census data, McCall had a 2000 population of 2,206 persons and a 2010 population of 3,003 persons, reflecting an average annual growth rate of 3.13 percent. However, the 2016 population, based on ESRI data, has declined slightly since 2010 to an estimated 2,912 persons, suggesting very little permanent population growth in the City.[3] The daytime population in the City is 5,127 persons,[4] reflecting the large number of persons who commute into the City as their place of employment.

Another source, the American Community Survey Census (ACS), estimates McCall's 2015 population at 2,955, slightly down from the 3,003 persons of 2010 and similar to the ESRI projection for 2016. Future population projections will be highly dependent on the ability of the community to provide more local housing rather than primarily second-home growth.[5]

[3] Source: ESRI Community Profile
[4] Source: ESRI Community Profile
[5] The population from second homes is not included in the Census data, although the City must still provide services for this population when it is in residence in the City.

Based on information provided in the McCall Area Comprehensive Plan, future population growth is projected as shown below:

TABLE 2: POPULATION PROJECTIONS

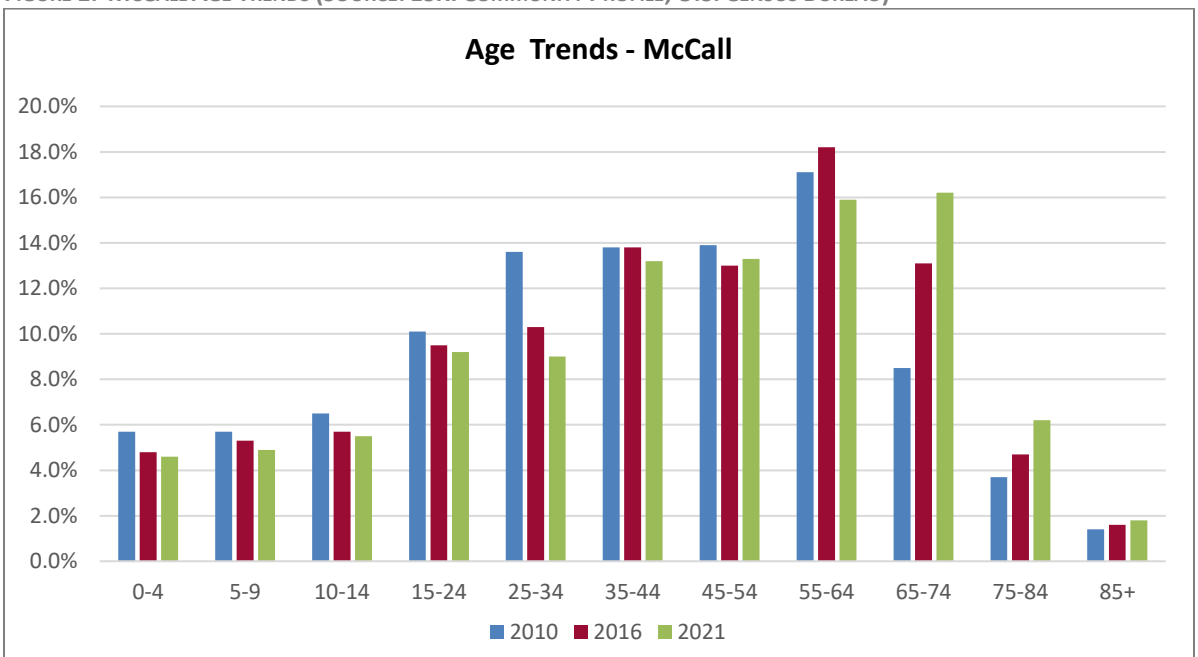
	Actual				Projected		
Year	1990	2000	2010	2015	2020	2030	2040
Population – 5 Year Rate of Change	2,285	2,092	2,951	3,106	3,269	3,622	4,012
Population – 10 Year Rate of Change	2,285	2,092	2,951	3,106	3,570	4,717	6,231
1.03%	2010-2015 (Census Estimates, City of McCall, 2010 Census to July 1, 2015						
2.82%	2005-2015 (City of McCall Historical Growth Rate (2005-2015)						

Households

Age

The median age in McCall was 40.9 years old in 2010; it increased to 45.5 by 2016.[6] While the U.S. population has also been aging, this has not occurred at quite the rate of McCall. In 2010, the median age nationwide was 37.2 years; by 2015 it was 37.8 years. This age shift suggests that younger people (25-34) are leaving the area, likely due to a lack of employment or housing opportunities. Older people are also choosing to retire in the area.

FIGURE 1: MCCALL AGE TRENDS (SOURCE: ESRI COMMUNITY PROFILE; U.S. CENSUS BUREAU)

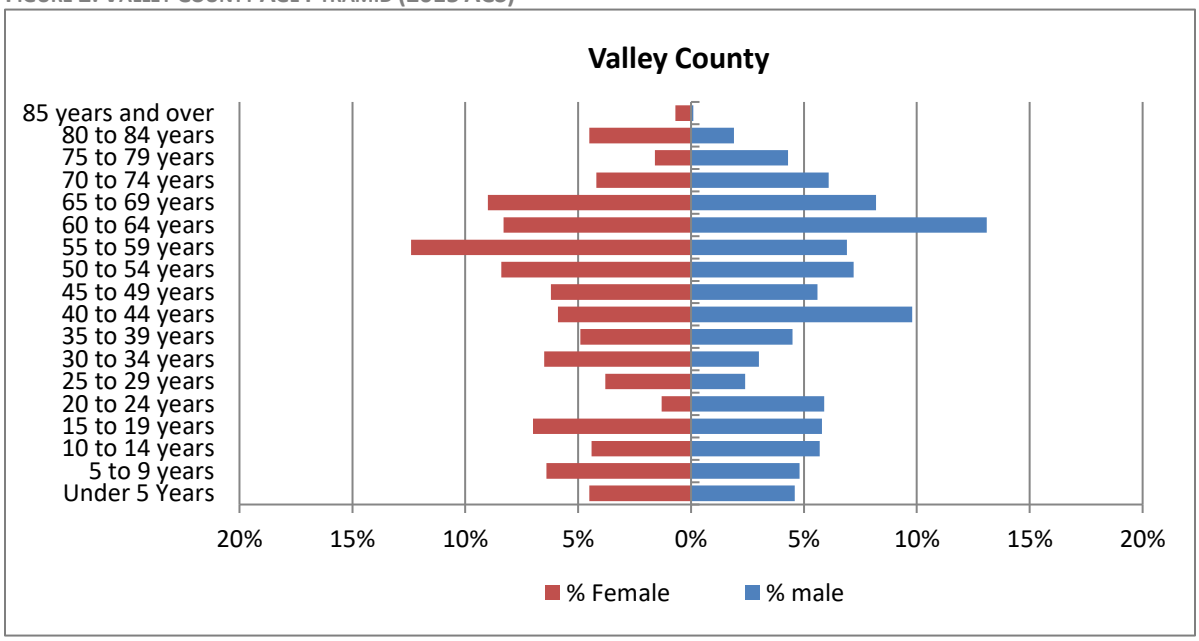


Source: ESRI Community Profile; U.S. Census Bureau, Census 2010 Summary File 1. ESRI forecasts for 2016 and 2021.

Population pyramids are used to compare the relative age of the population compared to surrounding areas. Valley County shows an extremely large bulge in the population between 45 and 69 years.

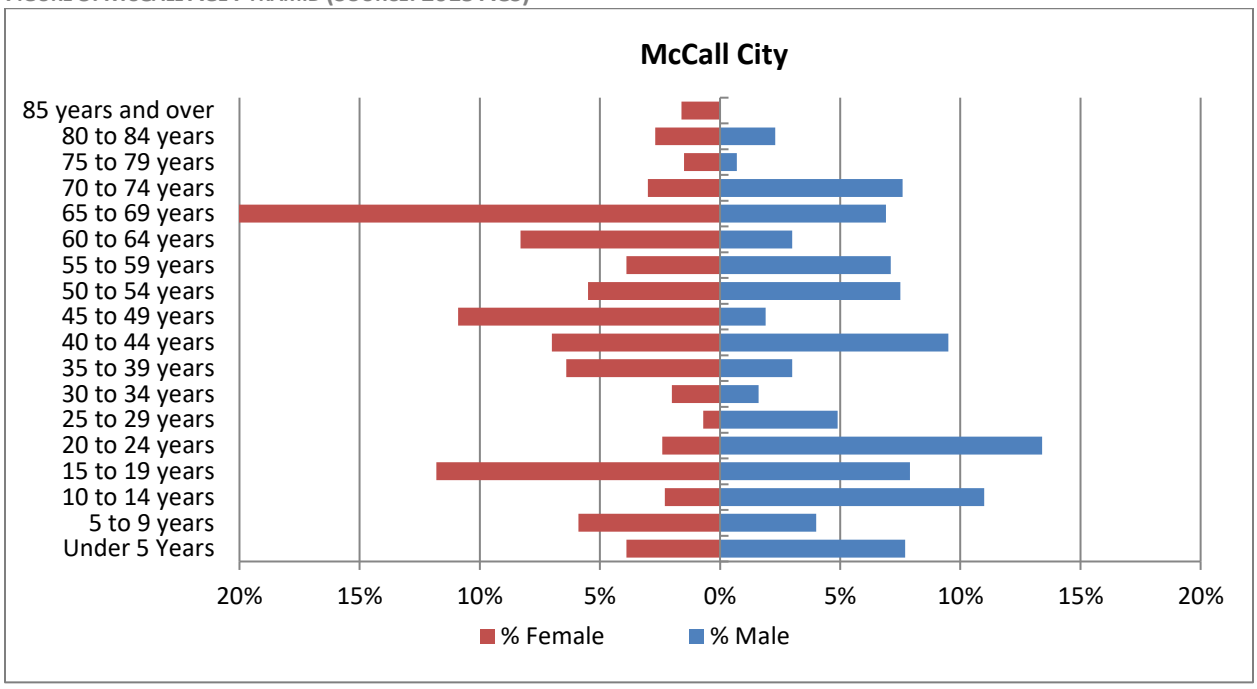
[6] Source: ESRI Community Profile

FIGURE 2: VALLEY COUNTY AGE PYRAMID (2015 ACS)



The demographic breakout for McCall is decidedly distinct, with a relatively small percentage of the population between 25 and 40 years.

FIGURE 3: MCCALL AGE PYRAMID (SOURCE: 2015 ACS)



Household Size

The average household size is 2.91 persons; in comparison, the United States average household size is 2.58 persons.[7]

Independent Living

While independent living facilities are targeted to the population age 55 and over, most research shows that these facilities are generally sought after by those aged 70 and older. The following table shows those individuals that may have special needs for housing due to difficulties with self-care and is a relatively small, albeit growing portion of the population.

TABLE 3: ELDER POPULATION (SOURCE: 2015 ACS)

Description	2000	2015
McCall City		
Individuals Over 65 with Self-Care Difficulty[8]	26	23
Individuals Over 65 with Independent Living Difficulty[9]	24	77
Valley County		
Individuals Over 65 with Self-Care Difficulty	58	139
Individuals Over 65 with Independent Living Difficulty	104	280
Adams County		
Individuals Over 65 with Self-Care Difficulty	45	46
Individuals Over 65 with Independent Living Difficulty	81	115
Combined Counties		
Individuals Over 65 with Self-Care Difficulty	103	185
Individuals Over 65 with Independent Living Difficulty	185	395

Employment

Employment

The Idaho Department of Labor reports that the largest employment sectors in McCall are Accommodation and Food Services, totaling 23 percent of total employment in the City. Retail Trade accounts for another 17 percent of total employment, while Arts, Entertainment and Recreation account for 6 percent. Wages in these industries are all relatively low when compared with other employment sectors.

TABLE 4: MCCALL EMPLOYMENT BY SECTOR (SOURCE: IDAHO DEPARTMENT OF LABOR)

Sector	Employers	% Employers	Employment	% Employment	Average Wage
Agriculture, Forestry, Fishing and Hunting	4	1%	26	1%	$35,297
Mining, Quarrying, and Oil and Gas Extraction	-	-	-	-	-
Utilities	-	-	-	-	-
Construction	94	25%	170	5%	$32,501

[7] Source: ESRI Community Profile

[8] Self-care difficulty means that because of a physical, mental or emotional condition, lasting six months or more, the person has difficulty dressing, bathing or getting around inside the home.

[9] Independent living difficulty means that because of a physical, mental or emotional problem, the person has difficulty doing errands alone such as visiting a doctor's office or shopping.

Sector	Employers	% Employers	Employment	% Employment	Average Wage
Manufacturing	4	1%	29	1%	$40,098
Wholesale Trade	5	1%	7	0%	$43,252
Retail Trade	29	8%	524	17%	$28,158
Transportation and Warehousing	5	1%	46	1%	$43,027
Information	-	-	-	-	-
Finance and Insurance	11	3%	94	3%	$56,405
Real Estate and Rental and Leasing	34	9%	83	3%	$23,899
Professional, Scientific, and Technical Services	26	7%	45	1%	$38,282
Management of Companies and Enterprises	-	-	-	-	-
Administrative and Support and Waste Management and Remediation Services	14	4%	58	2%	$37,565
Educational Services	6	2%	175	6%	$37,905
Health Care and Social Assistance	30	8%	307	10%	$62,330
Arts, Entertainment, and Recreation	19	5%	199	6%	$18,952
Accommodation and Food Services	50	13%	731	23%	$22,139
Other Services (except Public Administration)	26	7%	104	3%	$19,202
Public Administration	6	2%	477	15%	$48,566
Total	**373**	100%	**3,157**	100%	**$35,773**

Sorted by wage, the five lowest wage-paying industry sectors in McCall include the hospitality sectors listed above.

- Arts, Entertainment and Recreation ($18,952)
- Other Services (except Public Administration ($19,202)
- Accommodation and Food Services ($22,139)
- Real Estate and Rental Leasing ($23,899)
- Retail Trade ($28,158)

Comparatively, industry wages are slightly higher in McCall than in the County, but are generally lower than average wages in the State.

TABLE 5: WAGES BY SECTOR (SOURCE: IDAHO DEPARTMENT OF LABOR)

Sector	McCall	Valley County	McCall Percent of County Wage	Idaho	McCall Percent of State Wage
Agriculture, Forestry, Fishing and Hunting	$35,297	$38,036	93%	$33,998	104%
Mining, Quarrying, and Oil and Gas Extraction	---	---	---	$72,116	---
Utilities	---	$78,774	---	$81,599	---
Construction	$32,501	$35,772	91%	$41,440	78%
Manufacturing	$40,098	$37,872	106%	$55,481	72%
Wholesale Trade	$43,252	$56,534	77%	$56,593	76%
Retail Trade	$28,158	$26,816	105%	$29,715	95%
Transportation and Warehousing	$43,027	$41,244	104%	$39,202	110%
Information	---	$72,339	---	$49,187	---
Finance and Insurance	$56,405	$55,281	102%	$58,090	97%
Real Estate and Rental and Leasing	$23,899	$22,486	106%	$33,243	72%
Professional, Scientific, and Technical Services	$38,282	$43,677	88%	$60,183	64%
Management of Companies and Enterprises	---	---	---	$78,746	---
Administrative and Support and Waste Management and Remediation Services	$37,565	$36,578	103%	$31,580	119%
Educational Services	$37,905	$36,239	105%	$36,372	104%
Health Care and Social Assistance	$62,330	$56,179	111%	$40,929	152%
Arts, Entertainment, and Recreation	$18,952	$18,776	101%	$18,054	105%
Accommodation and Food Services	$22,139	$20,998	105%	$15,326	144%
Other Services (except Public Administration)	$19,202	$20,664	93%	$28,456	67%
Public Administration	$48,566	$45,293	107%	$39,814	122%
Total	**$35,773**	**$35,133**	**102%**	**$39,658**	**90%**

According to the American Community Survey (ACS), 39 percent of McCall households have 2 or more workers. This is higher than both the County (28 percent) and State (34 percent). A second wage may be necessary by many households in order to afford to live in McCall.

TABLE 6: PERCENT OF HOUSEHOLDS BY NUMBER OF WORKERS (SOURCE: 2015 ACS)

Number of Workers per Household	McCall	Valley County	Idaho
No workers	32%	37%	27%
1 worker	29%	34%	38%
2 workers	34%	24%	29%
3 or more workers	5%	4%	5%

Incomes

The median household income in McCall is $49,141, which is higher than the State's median of $47,583 and the County's median of $48,384.[10] In fact, the median household income in McCall is more than twice the average wage paid in any of the hospitality industries, with the exception of Retail Trade.

Given the relatively low wages in many industries in McCall, it is apparent that many lower-income workers may not actually live in the City. The daytime population is significantly higher than the resident population, again indicating that many people commute into McCall for employment. Therefore, their incomes do not lower the "median household income" in the City.

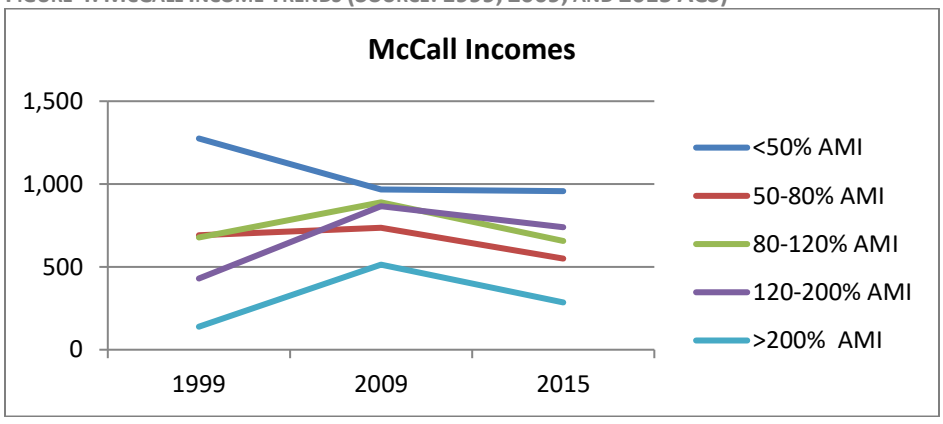
Household incomes in McCall are compared with housing prices to assess affordability for different income ranges. The income ranges shown below are based on HUD's guidelines for affordability and will be used in the housing section of this study.

TABLE 7: HOUSEHOLD INCOMES IN MCCALL (1999, 2009, AND 2015 ACS)

McCall City	AMI	Income Range	1999	2009	2015	% Change 1999-2015	% Change 2009-2015
Low Income Households	<50%	$0-$28,300	384	180	297	-23%	65%
Moderate Income Households	50-80%	$28,300-$45,300	195	309	165	-15%	-47%
Median Income Households	80-120%	$45,300-$67,950	176	370	179	1%	-52%
High Income Households	120-200%	$67,950-$113,250	131	204	249	91%	22%
Very High-Income Households	>200%	$113,250+	34	132	88	157%	-33%

The following table clearly shows the impacts of the economic downturn in 2008 on the area median income.

FIGURE 4: MCCALL INCOME TRENDS (SOURCE: 1999, 2009, AND 2015 ACS)



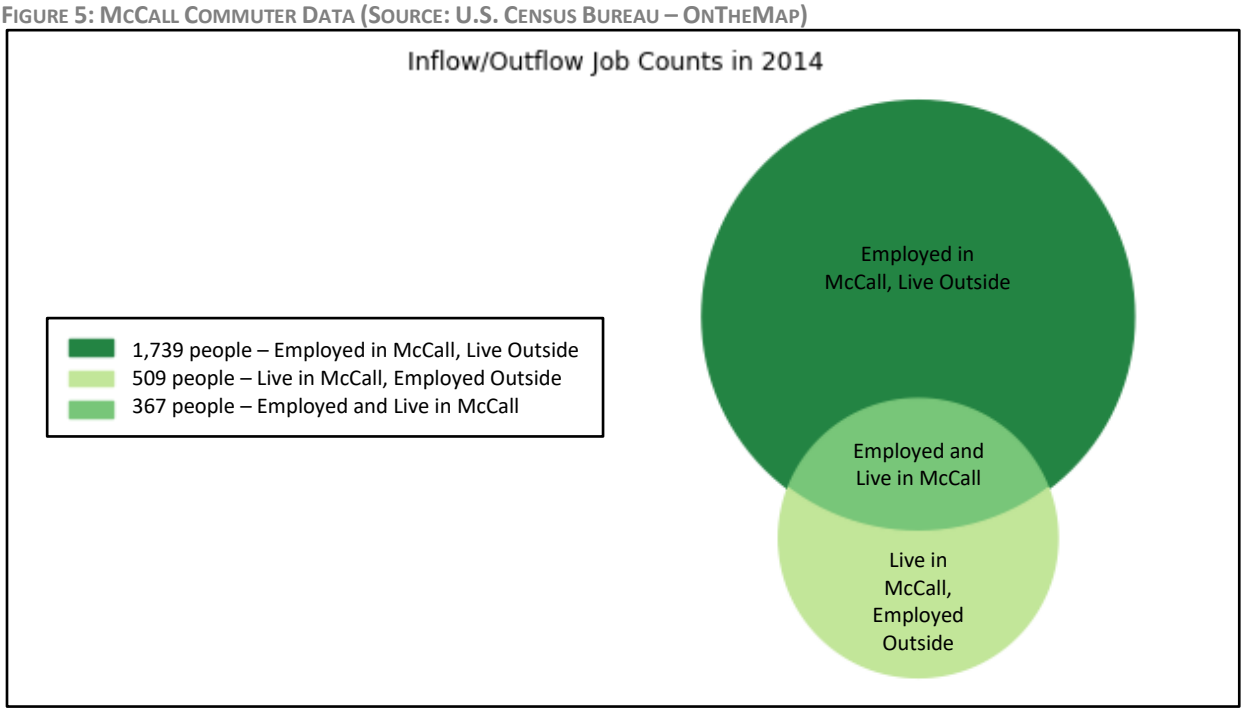
Commuter Data

[10] Source: American Community Survey (ACS) 2015 5-year average

McCall has a significant proportion of its workforce commuting in from nearby communities. This is unsurprising, given the data and feedback about housing availability, but also very common in any type of resort or tourism community. If too much of the workforce needs to commute in to work, the culture and character of the community outside of business hours suffers. By improving and maintaining local housing options, McCall will be able to reduce the need for a commuting workforce and maintain the local community of people who can work and live in McCall.

The Census reports detailed commuting data on an inflow and outflow basis, with 2014 as the most recent year available.[11] This information tells us that a large majority of the workforce is commuting in to McCall to work, but lives outside the City in places like Boise, Council, New Meadows, and Donnelly. In 2014, 1,739 of McCall employees commuted in to work from outside areas and 367 of those working in McCall also lived in McCall. An additional 509 McCall residents commute to work outside the City. This means that of those that work within the City, 82 percent of employees are commuting from outside and are not residents.

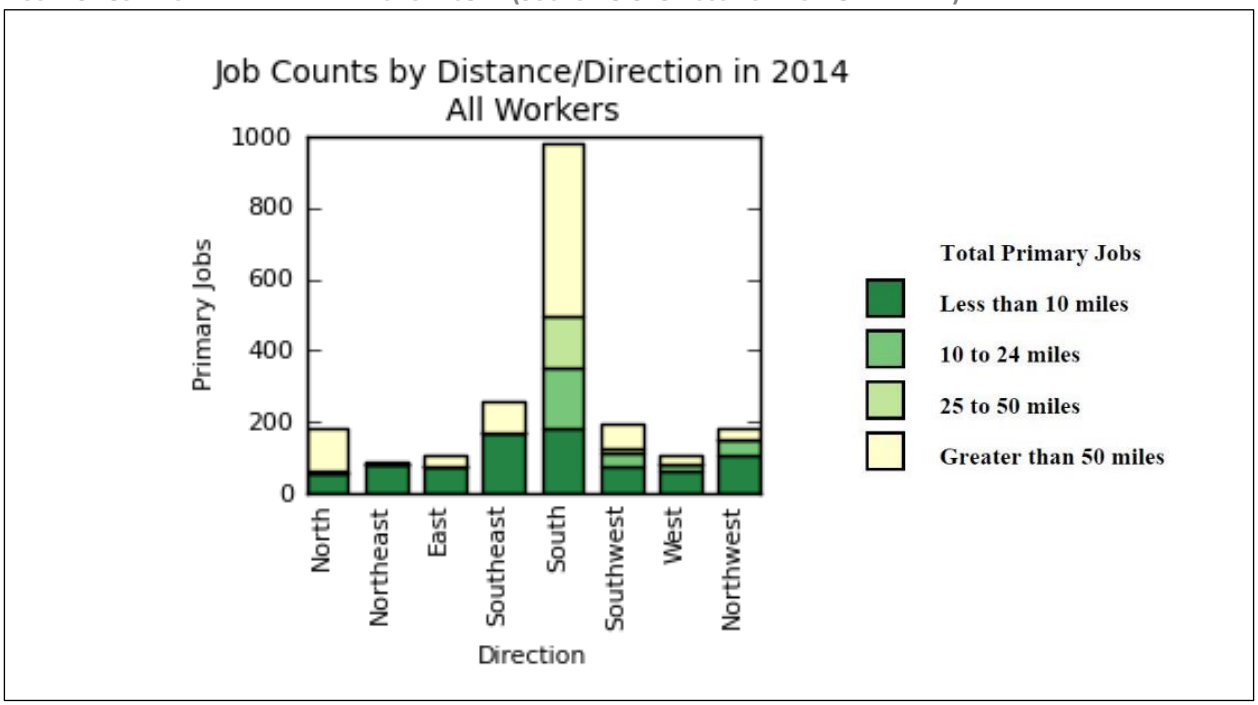
FIGURE 5: MCCALL COMMUTER DATA (SOURCE: U.S. CENSUS BUREAU – ONTHEMAP)



It's also important to note that of those commuting into McCall, the largest proportion is commuting greater than 50 miles one-way to work; 40.5 percent of commuters are traveling greater than 50 miles, which significantly impacts both the employee and their involvement in the McCall community beyond their work shift. The second largest group does include those living and working in the City; employees commuting less than ten miles make up 38.5 percent of the McCall workforce. 12.8 percent travel 10 to 24 miles and 8.3 percent travel a significant 25 to 50 miles to their job. The majority of those commuting in to work are coming from the south of McCall.

[11] Source: U.S. Census Bureau - OnTheMap

FIGURE 6: COMMUTER TRAVEL PATTERNS TO MCCALL (SOURCE: U.S. CENSUS BUREAU – ONTHEMAP)



The following table shows the city of origin for employees working in McCall. This table includes only those with five or more workers, but a more complete list is in the Appendix for reference. For those commuting from outside of McCall, Boise has the highest number of workers. This is likely partially due to employees in the construction industry who live in Boise and come to McCall for work.

TABLE 9: WHERE WORKERS LIVE WHO ARE EMPLOYED IN MCCALL (LOCATIONS WITH 5 OR MORE) (SOURCE: U.S. CENSUS BUREAU)

Residence	Number of Employees	Share
McCall, ID	367	17.4%
Boise City, ID	106	5.0%
Cascade, ID	68	3.2%
Meridian, ID	58	2.8%
Nampa, ID	46	2.2%
New Meadows, ID	33	1.6%
Caldwell, ID	25	1.2%
Council, ID	25	1.2%
Mountain Home, ID	21	1.0%
Donnelly, ID	18	0.9%
Lewiston, ID	16	0.8%
Twin Falls, ID	14	0.7%
Marsing, ID	12	0.6%
Weiser, ID	11	0.5%
Eagle, ID	10	0.5%
Homedale, ID	10	0.5%
Kuna, ID	10	0.5%
Pocatello, ID	10	0.5%
Coeur d'Alene, ID	9	0.4%
Baker City, OR	7	0.3%

Residence	Number of Employees	Share
Idaho Falls, ID	6	0.3%
Glenns Ferry, ID	5	0.2%
Middleton, ID	5	0.2%
Payette, ID	5	0.2%
Rathdrum, ID	5	0.2%
Robie Creek, ID	5	0.2%
Pendleton, OR	5	0.2%

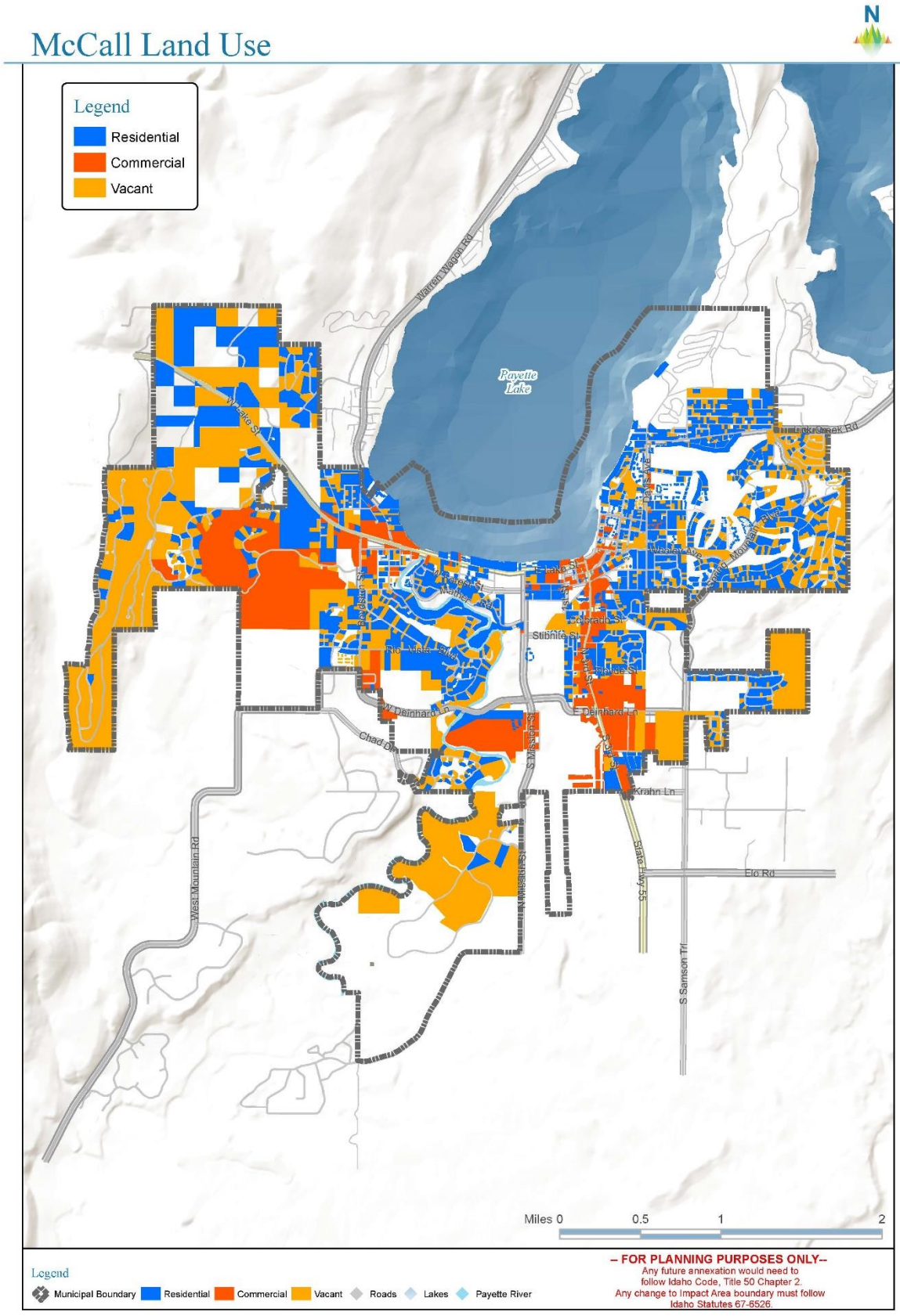
Land Use

Today, nearly 89 percent of the City's developable land is occupied by, or is zoned for, single-family residential uses.[12] The remaining land is divided among higher-density residential uses, the Central Business District, commercial and industrial uses, and public lands. In recent years, more mixed-use and multifamily residential projects have been built in the City, specifically in downtown and along the Third Street Corridor. Outside City limits, land uses in the Area of Impact are primarily large-lot rural and estate residences, master-planned communities, agriculture, and public lands.

While the McCall area has substantial land available for additional growth, much of it is in the western and southern areas of the community. These areas are furthest from essential services and employment and often lack infrastructure necessary to provide development that would be affordable. Therefore, redevelopment options on land located closer to downtown and highway corridor will likely need to be considered as part of the City's housing strategies.

[12] Based on low-density residential, rural residential and estate residential zoning.

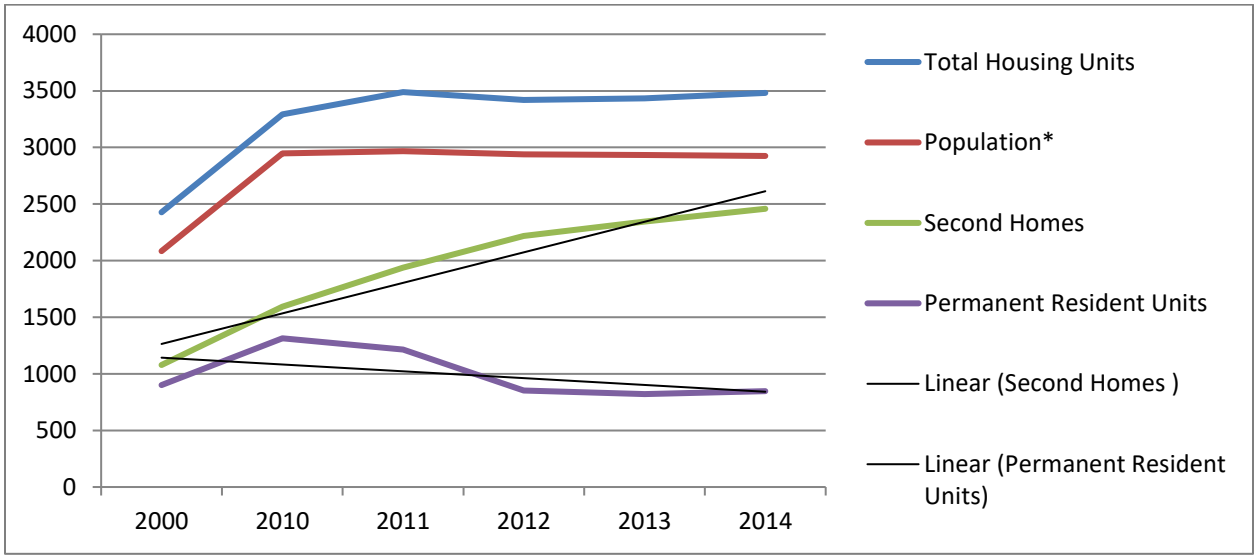
FIGURE 7: MCCALL LAND USE (SOURCE: VALLEY COUNTY ASSESSOR)



Housing

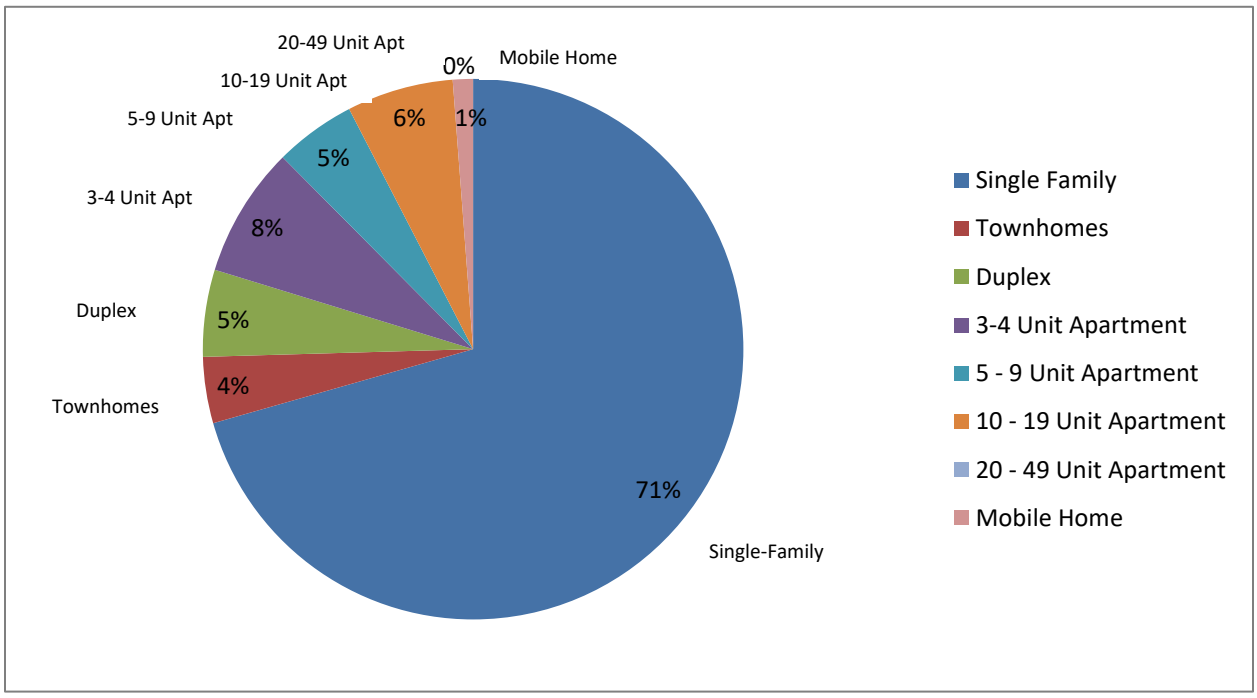
As the table below shows, taken from the McCall Area Comprehensive Plan, there has been a sharp increase in the number of second homes, with a decreasing number of permanent resident units in the City.

FIGURE 8: MCCALL RESIDENTIAL UNITS BY TYPE



Most of the existing housing stock was built as single-family. Detached single-family units are, on average, substantially more expensive than multi-family units.

FIGURE 9: RESIDENTIAL UNIT TYPES



Primary vs Secondary Residences

The American Community Survey (ACS) estimates that only 27 percent of housing units in McCall are occupied, with 73 percent of units vacant, representing the extremely high second-home population in the area. Of the owner-occupied units, slightly more than half are owner-occupied rather than renter-occupied.

TABLE 10: PERCENT OF HOMES BY OCCUPANCY (SOURCE: ACS 2015)

	Percent of Units
Occupied Units	**27%**
Owner Occupied	15%
Renter Occupied	12%
Vacant Units	**73%**
TOTAL UNITS	**100%**

Additional ACS data indicates that of all units listed as vacant, 97 percent of units were for seasonal, recreational, or occasional use, though no indication is made for what percent of those are secondary homes v. rental units.

TABLE 11: PERCENT OF HOMES BY VACANCY CLASSIFICATION (SOURCE: ACS 2015)

Vacancy Classification	Percent of Units
For Rent	1%
Rented, Not Occupied	0%
For Sale Only	0%
Sold, Not Occupied	1%
For Seasonal, Recreational, or Occasional Use	97%
For Migrant Workers	0%
Other Vacant	1%

This data is corroborated by research conducted by Zions Public Finance, Inc. (ZPFI) regarding the rental home market in McCall. Based on this research, long-term rental units are far and few between in McCall. There are a few apartment complexes, most of which would not provide rent rates without detailed information regarding renter status. On Zillow,[13] only one single-family 'home' (cabin) was available for rent. However, the options were numerous if looking to rent a vacation home for a week. Long-term rentals identified as part of this study are shown below:

TABLE 12: LONG-TERM RENTAL UNITS AND RENT RATES IN MCCALL

Type	Year Built	Size	# of Beds	# of Baths	Address	Monthly Rent	Availability
Cabin	1974	1,008 sq ft	2	1	285 Rio Vista Blvd	$1,300	
Cottage	1991	1,200 sq ft	3	2	1102 Buckboard Way	$1,575	
Detached House			3	2		$3,000	
Condo			3	2		$1,400	
Timbercrest Condos	New				1000 N 2nd Street		No Availability

[13] Zillow is an on-line real estate marketplace with listings of for-sale and rental properties.

Type	Year Built	Size	# of Beds	# of Baths	Address	Monthly Rent	Availability
Ponderosa Arms Apartments (Timbers)	2008 Remodel	770 sq ft	2	1	1305 Ponderosa Avenue	$850	No Availability
The Springs II Apartments	2010	508-1,115 sq ft	0-3		325 Valley Springs Road		No Availability
Apartments	1960				1401 Davis Street		No Availability
Multi-Family	2007	1,230 sq ft	3	3	607 N 3rd Street		No Availability

These rental rates will be evaluated further in the analysis of housing affordability.

Chapter 3: Housing Affordability

Housing affordability is used to compare the existing housing stock with average wages in an area and to assess if there are sufficient units available for all income categories. HUD guidelines suggest that no more than 30 percent of a household's income should be spent on housing costs (rent, mortgage payment, insurance, property taxes and utilities).

Housing affordability is further based on the Area Median Income (AMI) as determined by the US Department of Housing and Urban Development (HUD). The AMI is then adjusted by household size, as shown in the following table. The average AMI for a household of about 3 persons has been used in this analysis. These values are used when determining the total number of housing units currently locally-serving in McCall for various income levels.

Table 13: Valley County, ID Area Median Incomes (Source: HUD)

	Persons per Household							
Valley County, ID	1	2	3	4	5	6	7	8
30% of AMI	$12,094	$15,094	$16,988	$18,863	$20,381	$21,881	$23,400	$24,900
50% of AMI	$22,000	$25,150	$28,300	$31,400	$33,950	$36,450	$38,950	$41,450
80% of AMI	$32,250	$40,250	$45,300	$50,300	$54,350	$58,350	$62,400	$66,400
100% of AMI	$40,313	$50,313	$56,625	$62,875	$67,938	$72,938	$78,000	$83,000

The following table lists the percent of households by household income in McCall.[14] About 53 percent of McCall households earn at least 100 percent of AMI, while approximately 47 percent earn less than 100 percent of AMI.

Table 14: Percent of Households by Income (Source: 2015 ACS)

Income	Percent of Households	Cumulative Percent	AMI Group
Less than $10,000	6.6%	6.6%	30%
$10,000 to $14,999	2.5%	9.1%	30%
$15,000 to $19,999	9.1%	18.2%	30%
$20,000 to $24,999	7.2%	25.4%	50%
$25,000 to $29,999	5.0%	30.4%	50%
$30,000 to $34,999	5.2%	35.6%	80%
$35,000 to $39,999	9.1%	44.7%	80%
$40,000 to $44,999	2.6%	47.2%	80%
$45,000 to $49,999	3.9%	51.1%	80%
$50,000 to $59,999	8.7%	59.8%	100%
$60,000 to $74,999	10.7%	70.6%	Above 100%
$75,000 to $99,999	17.2%	87.7%	Above 100%
$100,000 to $124,999	6.1%	93.9%	Above 100%
$125,000 to $149,999	0.8%	94.7%	Above 100%
$150,000 to $199,999	2.4%	97.0%	Above 100%
$200,000 or more	3.0%	100.0%	Above 100%

[14] Source: 2015 ACS

Home Values

The American Community Survey (ACS) reports the median home value in McCall is $206,800, which is higher than the State median value of $162,900, but lower than the County median value of $221,500. The median home value in McCall is nearly identical to the maximum home cost (assuming 30 percent of income is spent on housing and utilities) for those making the area median income (AMI).[15] However, there are significant shortages in available housing stock for those making less than 100 percent of AMI, especially for households below 50 percent of AMI. Households below 50 percent AMI typically cannot afford to purchase a home and rely on rental options; therefore, it is essential to have sufficient rental options for low-income households.

TABLE 15: INCOMES AND HOUSING AFFORDABILITY

	<30% AMI	30-50% AMI	50-80% AMI	80-100% AMI	Greater than 100% AMI
Annual Income	$16,988	$28,300	$45,300	$56,625	>$56,625
Max Home Price	$17,093	$72,205	$155,024	$210,197	>$210,197
Percent of Total Homes	1%	3%	16%	15%	65%

As a comparison, the following tables summarize the total number of housing units by market value for McCall and the Impact Area,[16] according to the Valley County Assessor's Office. It is important to note that assessed value is often lower than market value in McCall, generally by 10 – 20 percent.

TABLE 16: MCCALL HOMES BY MARKET VALUE (SOURCE: VALLEY COUNTY ASSESSOR'S OFFICE)

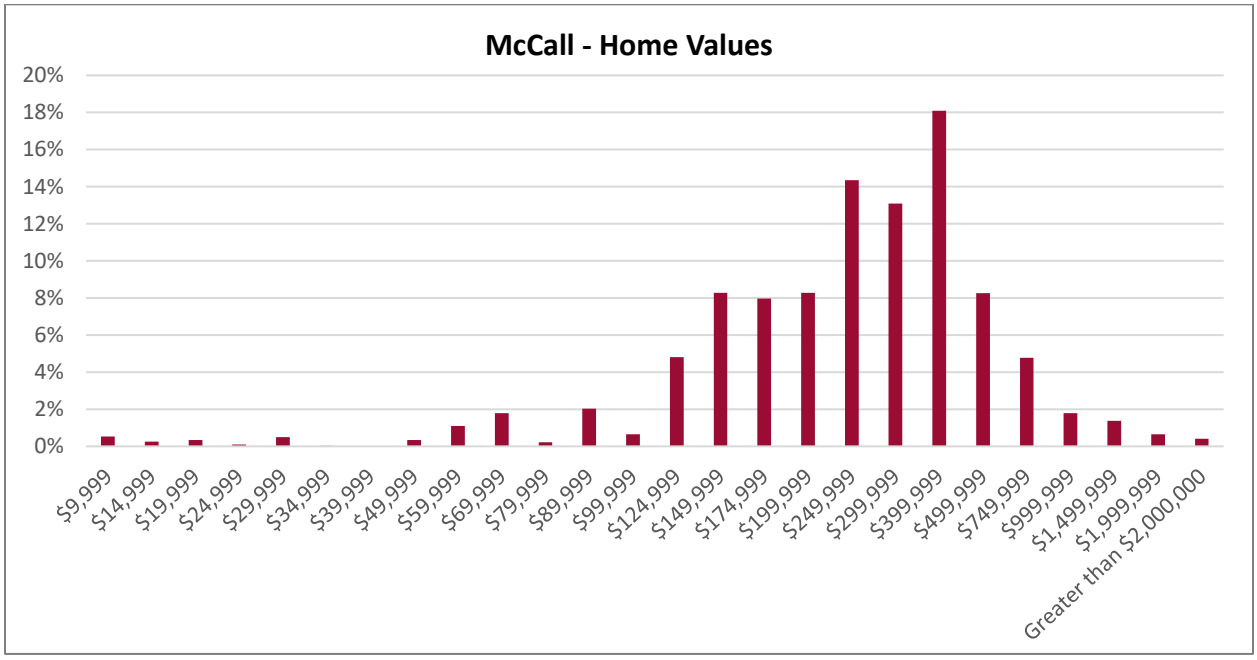
Home Value Max	Homes	Percent of Homes	Cumulative Percent
$9,999	17	1%	1%
$14,999	8	0%	1%
$19,999	11	0%	1%
$24,999	3	0%	1%
$29,999	16	1%	2%
$34,999	1	0%	2%
$39,999	-	0%	2%
$49,999	11	0%	2%
$59,999	35	1%	3%
$69,999	57	2%	5%
$79,999	7	0%	5%
$89,999	65	2%	7%
$99,999	21	1%	8%
$124,999	154	5%	13%
$149,999	265	8%	21%
$174,999	255	8%	29%
$199,999	265	8%	37%
$249,999	459	14%	52%
$299,999	419	13%	65%

[15] Based on average home utility costs. Because the same utility costs were used for all income levels, utility costs will have a greater impact on lower-income households and the maximum home price affordable to lower-income households.

[16] The Area of Impact (AOI) is a geographical area where a city is expected to grow and annex property at some future time. §67-6526(b) states that, "In defining an Area of City Impact, the following factors shall be considered: (1) trade area; (2) geographic factors; and (3) areas that can be reasonably expected to be annexed to the city in the future."

Home Value Max	Homes	Percent of Homes	Cumulative Percent
$399,999	579	18%	83%
$499,999	264	8%	91%
$749,999	153	5%	96%
$999,999	57	2%	98%
$1,499,999	44	1%	99%
$1,999,999	21	1%	100%
Greater than $2,000,000	13	0%	100%
TOTAL	**3,200**	**100%**	

FIGURE 10: MCCALL MARKET VALUE OF RESIDENTIAL UNITS



The table below combines McCall and the Area of Impact and demonstrates that housing stock in McCall is more affordable than housing stock in the Area of Impact. Ideally, additional housing would be located in McCall because of the closer proximity to essential services, employment, and public transit.

Figure 11: McCall and Area of Impact Housing Units by Market Value

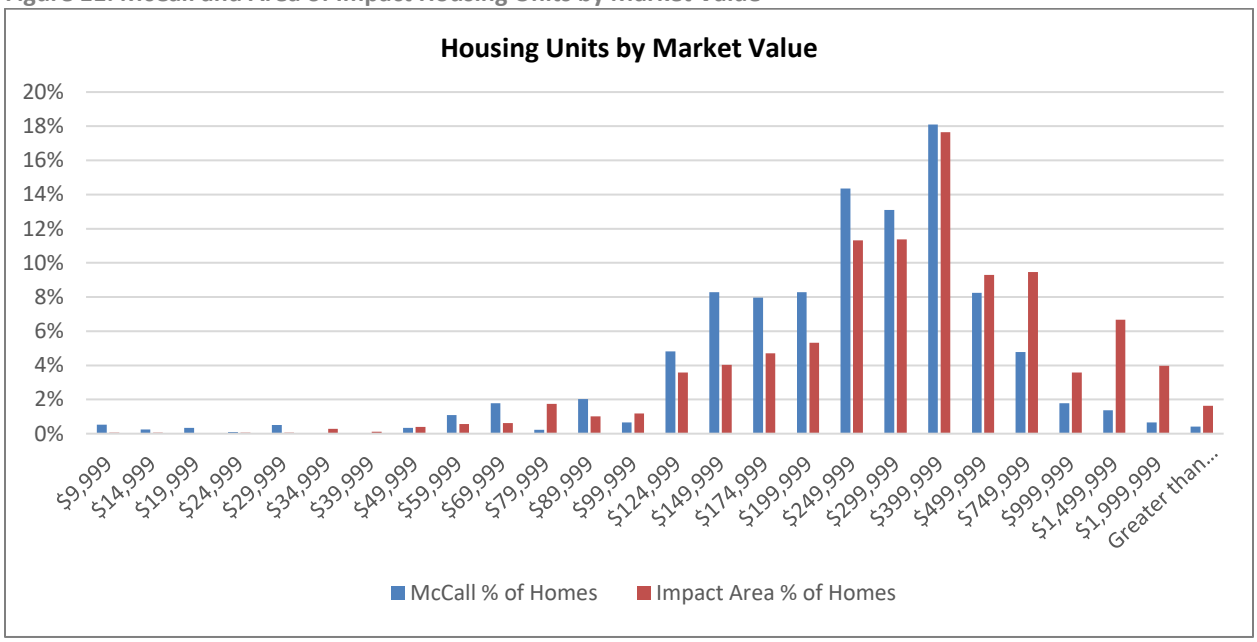
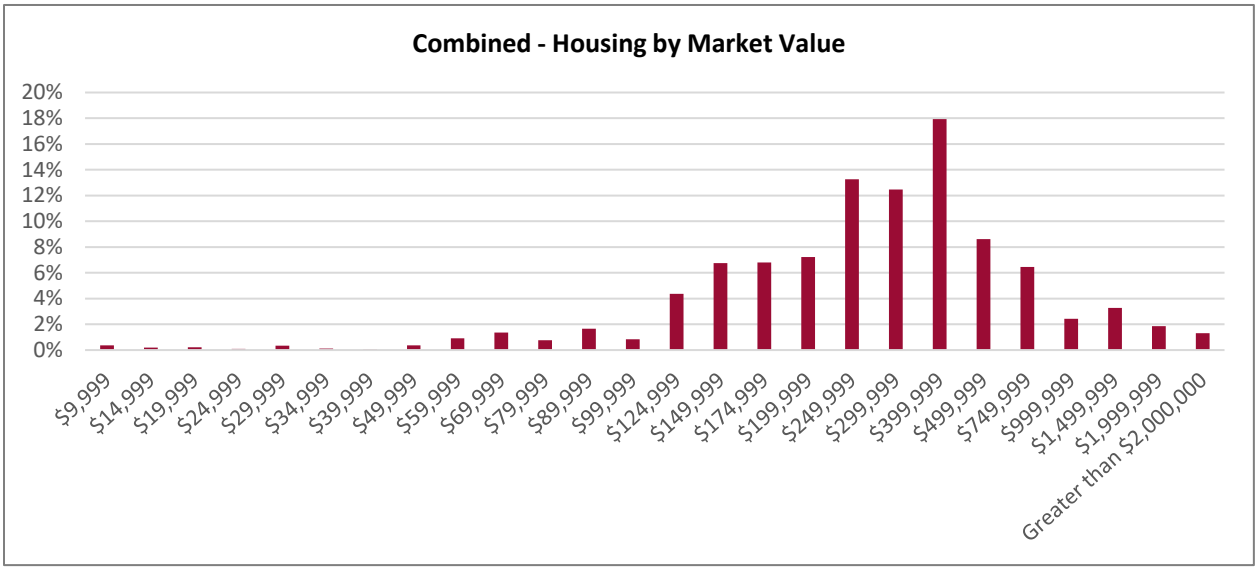


FIGURE 12: MCCALL AND AREA OF IMPACT RESIDENTIAL UNITS BY MARKET VALUE



Housing Affordability

The following table summarizes the existing conditions for housing in McCall and the Impact Area, based on AMI. Sixty percent of homes in McCall/Area of Impact are affordable to the 44 percent of households above 100 percent AMI, while only 4 percent of homes are affordable to the 16 percent of households earning between 30 and 50 percent of AMI. The one area where there is not a difference in current supply and demand is between 50 and 80 percent AMI, which has 18 percent of the housing stock and 18

percent of households. The analysis below does not include rentals which are analyzed separately. The Area of Impact is also included as a basis for comparison with McCall.

TABLE 18: PERCENT OF HOMES AFFORDABLE BY AMI

	<30% AMI	30-50% AMI	50-80% AMI	80-100% AMI	Greater than 100% AMI
Annual Income	$16,988	$28,300	$45,300	$56,625	>$56,625
Max Home Price	$17,093	$72,205	$155,024	$210,197	>$210,197
Total McCall/AOI Homes	32	127	576	540	1,925
Percent of McCall/AOI Homes	1%	4%	18%	17%	60%
Percent of McCall/AOI Households	12%	16%	18%	10%	44%
Difference	11%	12%	0%	7%	16%
Total Impact Area Homes	2	40	222	206	1,315
Percent of Impact Area Homes	0%	2%	12%	12%	74%
Total Residential Units	34	167	798	746	3,240
Percent of Total Residential Units	1%	3%	16%	15%	65%

The difference in the percent of households and number of residential units is greatest for households below 50 percent AMI. For example, in the category of <30% of AMI, there are only 32 residential units in McCall, representing approximately one percent of total housing units. Yet, 12 percent of the population falls into that category; therefore approximately 12 times the number of units are needed, or an additional 352 units. The table below demonstrates that many residents are forced to live in housing that costs more than 30 percent of their incomes. The demand for home ownership shown below is increased significantly when commuters are also considered. As stated previously, very few ownership opportunities exist for households below 50 percent of AMI, and especially for households below 30 percent of AMI. These income ranges generally rely on rental options.

TABLE 19: ADDITIONAL UNITS NEEDED BY MCCALL RESIDENTS

Additional Housing Units Required	% of Households in McCall	% of Existing Housing Units in McCall	Existing Units	Additional Units Needed
<30% AMI	12%	1%	32	352
30-50% AMI	16%	4%	127	381
50-80% AMI	18%	18%	576	0
80-100% AMI	10%	17%	540	(222)
>100% AMI	44%	60%	1,925	(513)

The locally-serving housing shortage is most deeply felt by those members of the community in lower-wage occupations, such as those shown in the tables below. [17]

[17] The maximum home price is calculated based on HUD guidelines that a household should not spend more than 30 percent of household income on housing payments and utilities. The same utility costs were used for each income range, based on the average home utility costs. Because the same utility costs were used for each income range, utilities have a greater impact on lower-income households.

TABLE 20: PERCENT OF HOMES AFFORDABLE BY PRIMARY INDUSTRIES

	Accommodation & Food Services	Arts, Entertainment, Rec	Education	All Industries
Annual Income	**$22,139**	**$18,952**	**$37,904**	**$35,773**
Max Home Price	**$42,190**	**$26,664**	**$118,996**	**$108,611**
Total McCall Homes	58	49	366	300
Percent of McCall Homes	2%	2%	11%	9%
Total Impact Area Homes	12	3	151	129
Percent of Impact Area Homes	1%	0%	8%	7%
Total Homes	70	52	517	429
Percent of Total Homes	1%	1%	10%	9%
Percent of Individuals in Category	23%	6%	6%	

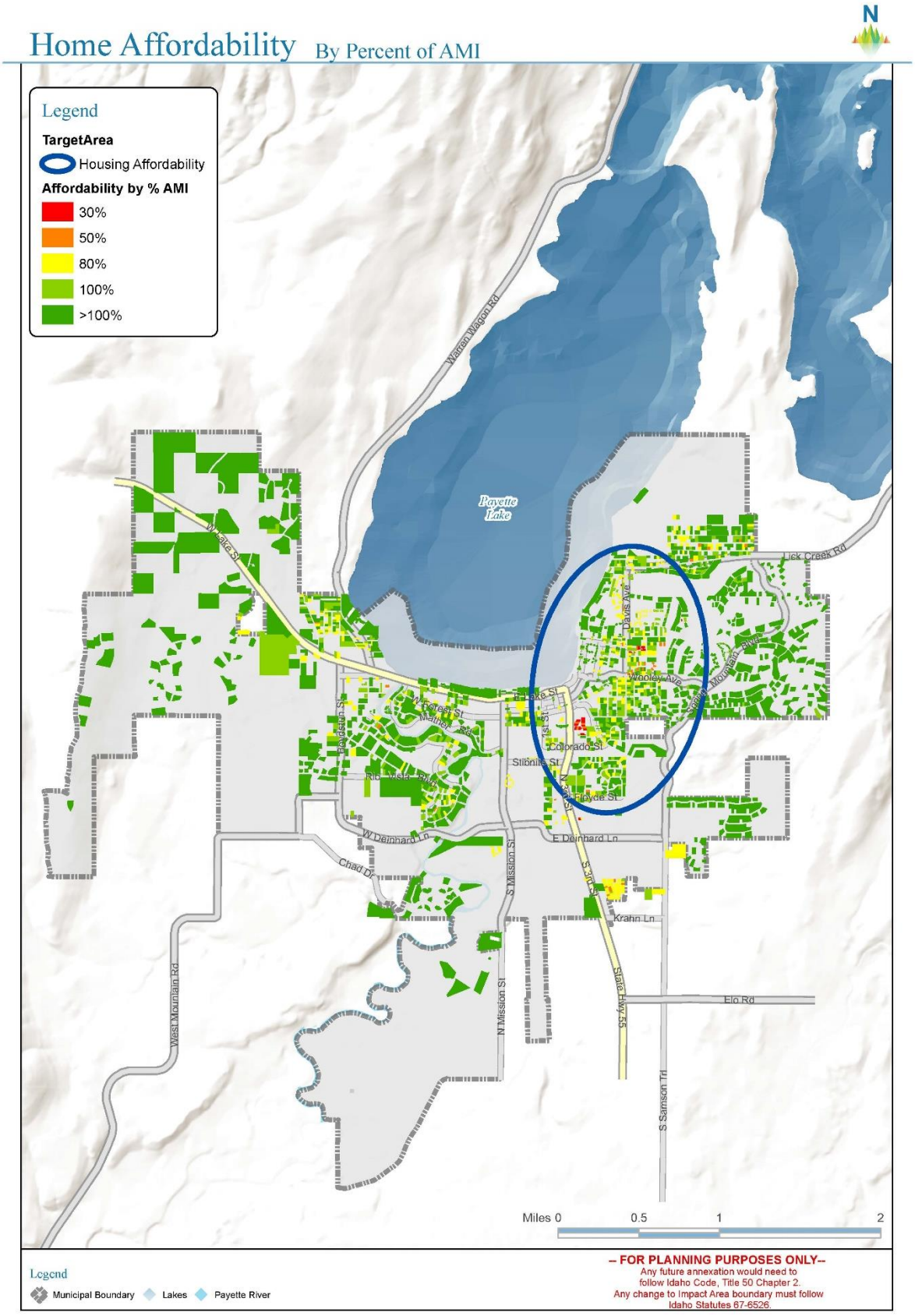
TABLE 21: AFFORDABLE HOME PRICES

	Average Wage	Max Home Value	Max Rent per Month
Accommodation & Food Services	$22,139	$42,191	$268
Arts & Entertainment	$18,952	$26,665	$189
Education	$37,905	$118,997	$663
Real Estate & Rental Leasing	$23,899	$50,764	$312
Retail Trade	$28,158	$71,513	$419
AMI - 100%	$56,625	$210,197	$1,131
AMI - 80%	$45,300	$155,024	$848
AMI - 50%	$28,300	$72,205	$423
AMI - 30%	$16,988	$17,096	$140

The maximum affordable rents shown in the table above are all more than the average rents researched as part of this study and as shown previously in this report.

The following map shows that the higher-priced residential units surround the lake or are in the southwest area of town. There appears to be slightly more affordability directly east and southeast of the lake. This corresponds well with the location of essential services and public transit which are important criteria for identifying future sites for locally-serving housing. The map is designed to show a large area of the City and surrounding area, and is not intended to show a parcel-by-parcel analysis of specific properties. Rather, the purpose is to see general areas of the City where there is more, or less, affordability.

FIGURE 13: MCCALL HOME AFFORDABILITY BY PERCENT OF AMI



A closer look at this targeted area suggests the potential for more mixed-use residential in the downtown area and 3rd Street in McCall.

Relative to locally-serving housing for specific industries, the following table summarizes housing affordability in McCall for primary industry sectors. For example, 2 percent of homes for ownership in McCall are affordable to individuals working in the Accommodation & Food Services sector, while 23 percent of individuals work in this sector.

Chapter 4: National Research

Although the scale and size of the problem varies greatly, communities nationwide that have tourism-based economies face similar economic challenges in housing when trying to provide local-housing options for household families. While tourism contributes to the local economy, the demand from tourists can cause rises in home prices as the second home market grows, but create competition in the market that create challenges for local residents. In McCall, the proportion of rentals (especially short-term) to permanent households has changed significantly in the last decade. As homes are purchased by investors or second homeowners have concerted to short-term rentals for additional income, the market tightens and becomes more expensive for local residents who struggle to find acceptable housing options. This section will review national approaches to attempt to align these dueling market forces by providing a mutually beneficial outcome while still correcting for market failures.

While McCall does already have significant impacts from the short-term rental market, the gap in housing prices and wages is not so large that it is too late for the City to make corrections and prevent "Aspenization." Aspen's home prices are so high that correcting for local-housing is a significant challenge. An official coined "Aspenization" to describe "what happens when small towns choke on what their charm has brought them" and this is a threat to any town with growing tourism interest.

This section will first review other mountain town and tourism economies and how they have approached correcting for housing issues in their economies with various solutions and tools found nationwide.

National Case Studies

Ketchum, Idaho

The Blaine County Housing Authority reports that compared with other resort towns in the west, Ketchum has the lowest affordable housing options – five units per 1,000 compared to 162 units in Aspen. The City's current policy focuses on developments with a floor-area ratio[18] great than 1. These developments are subject to 1) either provide a percentage of the property as deed-restricted or 2) donate a percentage of value to an in-lieu fund. In past years, the City has been supplementing this fund because there hasn't been enough generated to support the housing authority. Funds haven't always been used towards affordable housing development and some council members are pushing for more accountability. Also, some projects have had affordable housing requirements waived in return for being completed within a certain time frame, such as a hotel in recent years. Area officials site difficulty with the State of Idaho in options to fund housing, restricting housing tools like the real estate transfer tax and inclusionary housing.

Working hand-in-hand with the Blaine County Housing Authority (BCHA), the community is also serviced by ARCH Community Housing Trust. This Community Land Trust (CLT) is relatively new and is primarily funded by federal grants. As of this year the Blaine County Housing Authority and ARCH have 99 homes in their stewardship and have 126 active applications.

[1818] Floor-area ratio is the ratio between total land square footage and the building's square footage. It is a measure of building density.

Teton County (Jackson, Wyoming)
One of the more extreme cases in tourism housing, Teton County faces local housing shortages as demand for tourism rises. Homes in this area are 1,400 percent of the median income, despite median income being very high – around $300,000 per year. The average home sale is $2.14 million and condos sell for over $800,000. Rentals are also very expensive and rents are rising to keep pace with market demands. One of the largest complexes recently announced that rent would increase by 40 percent, forcing many long-time residents out. The area reports that there is a deficit of 340 workforce units and there is a need for 280 more per year to keep pace with employment needs. Local workers often commute over an hour through mountain passes. Those staying in the City report couch surfing, overcrowding and tent camping. Camping on public property as a housing option is not unheard of and it is not generally stopped unless there are complaints.

The City's Workforce Housing Plan has indicated a conventional approach to encouraging affordable housing in private development, in addition to some employer-led initiatives. These measures include allowing accessory dwelling units, updating zoning and parking requirements to allow for higher density, providing density bonuses, and expedited approvals for price-restricted projects. The Town and County also plan to continue "modeling best practices" by housing their own employees. Development will need to show mitigation for employee generation. A dedicated sales tax revenue for housing was voted on in 2016 but did not pass. Residents have identified that the local lodging tax goes to promotion, but most feel the area does not need marketing. The area does have about six percent of units, both rental and owner units, as deed restricted; however, there are no goals to expand this tool in the community.

Aspen, CO
The most famous and extreme example of tourism pricing out local residents and workers, Aspen finds that even doctors and lawyers are often priced out of local housing. The average home sale is for five million dollar and even a double-wide trailer can sell for one million dollars.

The Aspen Pitken County Housing Authority is a long-standing program to provide affordable workforce housing. Units under APCHA are available only to full-time employees in the county, with a mix of 1,346 rental and 1,619 sales units in the program. APCHA is funded through a one percent Real Estate Transfer Tax (RETT) on all real estate sold within the City of Aspen (after the first $100,000) and a portion of a sales tax. There are extensive and strict rules about who can participate and the kind of units they are eligible for based on family size and income. Also, due to extremely high demand, units are allotted via a lottery system.

There is a low appreciation cap on selling units to keep units affordable. This cap is at three percent or the Consumer Price Index, whichever is less. These units are also strictly excluded from being used as a short-term rental. These factors, combined with low availability in affordable housing overall, create a problem of people unwilling to free up units even into retirement. With retirees occupying affordable units with little financial incentive to sell, shortages continue for young workers and families. The low appreciation cap also has limited the incentive for affordable units to remain well-maintained and updated.

Mackinac Island, Michigan
A quaint and popular destination in the Midwest, Mackinac Island is an island on Lake Huron that boasts a car-free village full of Victorian structures and beautiful scenery. Maintaining local character on this island is vital to maintaining the rich summer tourism industry. Home prices are often over one million dollars and many residents live in either tiny cabins or cramped rentals. High summer rental rates forced many families to move starting in the 90's as land prices spiked.

A development was created on the island under the model of a Community Land Trust (CLT). A nonprofit was formed that owns the land and the Michigan State Housing and Development Authority runs the program. Lots are available through low-rent, 99-year leases and purchase is income qualified. Those wanting a lot must also have lived on the island for five of the last 25 years, must sign a contract certifying full-time residency (including no more than one month a year off the island, even for vacations), and there is a limit on the profit from future home sales. Home sale profit is limited to 20 percent increase in value. All of these qualifications are made possible through deed restrictions on the land lease and are intended to prevent homes from being subleased or flipped for profit.

While many of the cities in this chapter have implemented CLTs and they are heavily promoted as one of the best solutions to local housing options, they do not come without their own set of challenges. In Mackinac Island, one of the primary challenges and the reason some lots are still available comes down to mortgage qualification. Due to the nature of the land lease, mortgage lenders are requiring buyers to have at least 20 to 25 percent for a down payment, which is often difficult for the income-qualified families looking to build or own in this community. The nonprofit cannot currently provide financial assistance without restructuring. The Mayor has been looking into down payment funding opportunities throughout the State. The City is also considering rental options, such as an apartment building as a nonprofit organization.

Vail, CO

Vail is another ski-resort oriented community with severe housing shortages. The County's housing needs assessment indicated that 4,853 affordable units were needed – a number that would increase to 9,593 by 2025. Since 2010, Vail has had nearly 90 percent of home sales to unoccupied home owners. In response to these market shifts, significant solutions in housing have been initiated in recent years.

The Vail Housing Strategic Plan for 2027 has focused the Town on the primary goal of acquiring housing unit deed-restrictions. This plan is proposed to be funded in the near term by existing housing program funds and appropriations from the Town's Capital Projects Funds, with future funding sources from a dedicated tax source. This plan also is clear that a local housing authority should be established and used as the special agent for the Town Council, giving the authority power to skip bureaucracy while maintaining and granting financing and property powers as granted under the Colorado Revised Statutes. Deed-restrictions will be acquired for existing and new homes. They give the ability to put occupancy requirements on units without needing to own the property going forward.

The Town maintains a housing unit lottery with strict requirements for eligibility, including employment, ownership of other properties, and occupancy. These properties have a resale cap of three percent annual appreciation.

The Town also has an employee housing program for town employees. Top priority is given to critical employees such and police and mechanics. The Town also provides two loan programs to employees for rental and ownership. The Rental Advance program provides an interest free loan of $2,000 for rental costs. The Employee Home Ownership Program provides an equity share mortgage that gives a proportion of appreciation back to the Town. Resorts also provide employee housing.

The County has imposed a required rate of units that must be affordable within a development. The Local-Resident Housing Guidelines give leeway to developers in waiving some zoning requirements to provide

incentive for affordable unit growth. However, the County has refused to waive impact fees for any project, even if the project is providing more affordable units than required.

Moab, UT

Moab is the primary gateway to several National and State Parks in southern Utah. Nearly 60 percent of employment is driven by tourism-related industries. Although the affordability gap is not as pronounced as in some other tourism- driven towns, there is still a gap of $84,037 between what an average family can afford and the average selling price of a home in the area. The vacancy rate (which can indicate the degree to which homes are being used as vacation homes or rentals) has been on the rise and is currently at 27 percent.

Moab uses a variety of methods in assisting local-housing options. They use USDA502-direct loans that allow households to contribute sweat equity towards construction in exchange for low rates, repayment subsidies and home equity. 523-guaranteed loans are also used in the area. Deed restrictions have not been widely implemented, but beginning in 2017 newly constructed homes will have deed-restrictions to maintain long-term affordability. One development was recently approved as the first to include a 20 percent set-aside for affordable units, with 44 units deed-restricted for 40 years with income and employment requirements. Most projects use income limits for rental units. The 2017 Moab Area Affordable Housing Plan recommends developing a community land trust, increasing local funding, expanding the use of deed restrictions, adopting an assured housing ordinance requiring large developments to include affordable housing, supporting employer housing, increasing zoning densities, enabling tiny home development, and lobbying the State Legislature to allow flexibility in using the Transient Room Tax revenue.

Burlington, Vermont

The Champlain Housing Trust is the largest CLT in the country and one of the first, started in 1984. It manages 2,200 apartments and 565 owner-occupied homes. The City also manages a housing loan fund. A unique feature of Lake Champlain's CLT comes from the shared equity program that offers down payment assistance grants that are forever tied to the property. They are repaid by the owner at the time of sale and then given to the next buyer of the home. This shared equity program was invented by the Champlain Housing Trust and won the UN World Habitat Award. Two-thirds of sellers – many who began as low-income renters - go on to buy in the private market and their rate of foreclosure is ten times less than market norms. Like most CLTs, homes cannot be subleased and the homes carry deed restrictions.

The City supports the housing trust through federal sources, a 1 cent increase on the property tax rate, housing replacement ordinances, inclusionary zoning, condo conversion protections and tenant protections. The City has also worked hard to leverage the program to target a neighborhood for private investment and the program's model has been embraced by local banks and lenders.

San Juan Islands, WA

San Juan County is reachable only by air, boat, or ferry and has seen a surge in tourism and rental homebuyers while simultaneously seeing a decline in middle-class fishing, shipping and agriculture jobs that sustained the local working economy. The median home price was $500,000 last year and shipping costs to the islands make building difficult. The Seattle Times quoted a local resident saying that you "either own three homes or you have three jobs" to live on the islands.

The area also has a couple of active community land trusts that have created buzz by "recycling" housing units, including relocating old houses from Canada via barge. Not only was this cost effective compared

to building, but it suited the demographic market for the area. Local residents and donors have an interest in recycling and in preserving older homes with character. The buzz has contributed to increased fundraising appeal and activity from donors. These homes will be available to purchase in the $160,000 to $210,000 range.

Homes and apartments are managed using a variety of affordability tools within the CLTs. Many include the normal 99-year land lease. In one development, the buildings and land are owned in common by the residents and kept affordable by using a Permanent Affordability Covenant, a type of deed restriction. Both types of properties are subject to a resale formula tied to the Area Median Income. Grants and donations go toward construction and stay with the home in perpetuity, rather than as a windfall to the first owner. Some grants require sweat equity. One of the local CLTs also manages rental apartments and office spaces.

Whitefish, Montana

Business leaders in Whitefish met last year to discuss their inability to hire and keep enough employees and determined that housing was their biggest issue in staffing basic jobs. About 69 percent of jobs are in accommodation, entertainment, recreation, food, retail and arts and there is a shortage of workers available for these sectors that can afford to live in the area. There is more affordable housing in nearby towns, but there are also employment opportunities there providing less incentive to commute.
In the past year, Whitefish conducted a housing study. This study included a resident survey that found the greatest demand is in single-family detached units. 88 percent of respondents preferred these units, showing that plans for higher density may not meet the market demand and keep families interested in the area. Residents also noted that many units were in poor condition.

This study also pointed out that the Town's voluntary inclusionary program was not working and developers were not participating in the density bonus, making the housing needs fall further behind each year. The new housing plan is looking to implement a wider and more aggressive set of tools to encourage workforce housing to meet the 1,000-unit shortage. When this plan was implemented 20 years ago, the Town was clear that it wasn't interested in charity, but rather "correcting dislocations by unusual economics." However, any program going forward will need to be more aggressive to maintain an employment base. While the plan hasn't been completed, the Town is looking at zoning codes, waiving fees, requiring mandatory workforce employee housing and partnering with nonprofits.

Park City, Utah

The Park City area has been very careful to maintain the desirability of the area by limiting building heights and density, but this in turn has led to trends towards sprawl, congestion in the County and increased housing prices. The City's housing plan recognizes this paradox between maintaining character and keeping housing costs in check, noting that it was time to think beyond choosing low heights and density every time. While prices were still attainable to middle-class families before the Olympics, since the Olympics the City is increasingly concerned that the middle-class will be lost entirely.
The City has been very successful at fostering development of low-cost rental units with the help of Federal Housing Tax Credits. The private market is, of course, providing homes for the top end of the housing spectrum. The middle is where recent attention has now been focused. These households with buying power between $260,000 to $525,000 are unable to buy a home in the City unless they are willing to buy an attached condominium or to live outside the City and commute. Consultants for the most recent housing plan strongly recommended the City expand use of a land trust to purchase, hold, and lease properties in several neighborhoods in the City while redeveloping these properties to appeal to families that might otherwise look at newer homes in the County. Consultants for this plan noted this

would need to be aggressive and a fine line to walk to avoid the pitfalls of Vail (too dense) and Aspen (still not affordable). This plan requires $1 billion in forward commitments and the land trust to acquire about $300 million in land over 40 to 50 years. Zoning in these projects will also need to double in density to 7 to 9 units per acre.

Solutions

As seen in the various case studies above, different cities have a variety of approaches to trying to address the supply gap in local community housing, but almost all use a variety of tools simultaneously. The numerous types of tools available to correct market prices for local families are outlined below. These tools range from simple to complicated, passively to actively managed, and ones that influence private developments to ones were the local government is more involved in properties. Most of these tools can be used in combination and concert with each other, but they might be able to better serve different market segments depending on the types of products they might incentivize in the area.

McCall could certainly use a number of these tools, especially in encouraging affordable local housing options downtown with higher density to create vibrancy. In most communities, tourism-driven or not, density is often an enormous factor in improving the options for low- and moderate-income households. Density is also more easily attainable by incentivizing private development. This is definitely an angle for the City to approach in keeping downtown vibrant. The community is also interested in maintaining housing affordable for local residents of all income and demographic levels. For this goal, single-family residents must also be a focus and requires more active involvement on a per-unit basis. Single-family units are not only in higher demand, but making sure a year-round population lives in units throughout the City is key to maintaining the community character of McCall. Appendix B shows the impacts that smaller lot sizes can have on affordability in a City that originally had only large, single-family lots.

The most widely used and most effective tool in promoting affordable single-family units in tourism communities is an effective deed-restriction program, preferably in the form of an active and engaged Community Land Trust (CLT). While a CLT is not necessary for deed-restrictions, it does offer greater control over unit investments. Discussions with the City and stakeholders indicate that a Community Land Trust is in place. The CLT needs to take on a role of adding properties available to permanent, year-round residents. Tools can be used within the CLT to assist home-buyers with down payments and property rehabilitation, which are also issues discussed in community input meetings.

Another important factor for the City to prioritize is infrastructure support. Incentives could be provided for infrastructure support or for appropriate regulations for locally-serving housing.

Tools and Mechanisms

Fee Waivers

McCall can reduce the cost of development, thus reducing the rental or purchase price of a unit, by waiving fees for developments targeting local housing with deed restrictions. Fees that can be waived include plan reviews, impact fees,[19] water connections, and building permits. These issues can also contribute to infrastructure cost reduction. Sewer connections are now a service from the Payette Lakes Water and Sewer District; therefore, a reduction of these fees could not be offered by the City.

[19] While McCall does not currently charge impact fees to new development, these fees could be waived if the City should choose to enact impact fees in the future.

Permit Streamlining
This process would include prioritizing any project in the permit and review process if it meets local housing and affordability goals. Fast tracking and administrative approvals would, however, still be subject to legal requirements.

Inclusionary Zoning/Assured Housing
This is an ordinance that requires new construction to include affordable units or pay a fee equal to the cost of those units. This is only a useful tool if new developments are being created in growth-oriented communities and is generally applicable to dense housing developments, especially multi-family or attached units. While this is a common tool in other areas, the City has noted that this is not an option because inclusionary zoning is currently illegal in Idaho.20

Density Bonus
A density bonus incentive can take many forms:

1. Mixed income development – This can be a single-family or multi-family development that mixes unit sizes and qualities with good design practices to make units desirable at all income levels. This method prevents income segregation. A density bonus can be applied to these developments.

2. Allowing smaller units to be constructed, allowing taller buildings, relaxing set-back requirements, or other zoning allowances that can allow a developer to get a higher return on investment in return for a number of affordable units to be included.

Voluntary density bonuses have reportedly not proven to be largely effective in many tourism communities with rapidly rising property values. However, it is a tool that creates little harm in case a developer is interested.

Conditional Use Permits
Where high density or affordable housing is meeting pushback from the neighborhood, a conditional use permit can allow development to integrate into an area more smoothly. Requirements can include things like design requirements, lay out, traffic flow, amenities, management requirements and services.

Infrastructure Support
The City can reduce the cost of developing affordable housing and attract developers by constructing infrastructure in targeted locations. This reduces the cost of development, as well as reducing the construction time by making the property shovel-ready. Discussions with developers at the community involvement meetings found that infrastructure costs are perceived by them as a major hindrance to development within the City. The cost of water and sewer hookups is a major factor in limiting affordable housing techniques. The City could consider buying water and sewer hookups or subsidizing the connection fees.

Rent Subsidies
These programs effectively pay down rental rates such that the remaining cost burden on the family is an affordable 30 percent of its income. They come in two forms: tenant-based, where the tenant is free to

[20] The issue of inclusionary zoning was tried in 4th District Court and found to be unconstitutional under Idaho law.

move and take the assistance to each new location, and project-based where the assistance is attached to a project for periods of ten - twenty years. Project-based subsidies are less administratively burdensome and provide construction incentive to a developer, as they steady income streams and increase debt-carrying capacity. Tenant-based is flexible and can be applied to the current housing supply without necessarily building new affordable units. Federal rent vouchers are often very limited in availability. While the City could offer these from City funding, this would be a drain on housing funding rather than an investment.

Project-Based Grants
This straightforward and widely- applicable tool would function as a grant from the City to a developer in return for developing affordable housing units. Conditions of the grant may require a certain percentage of the units to be rented or sold within specified price ranges. Or grants can be used towards deed-restricted or land trust projects as an initial investment in permanently affordable units.

Tenant Grants
Although there is no payback to the City, the City can consider the simple approach of basic grants for use in down payment or rental assistance.

Deferred Payment Loans
These loans, also known as deferred payment second mortgage loan or "soft seconds," defer all payments of principal and interest until resale of the property or conversion. Sometimes these loans are even forgiven over a period of years. They are generally used in three ways:

1. Down payment assistance for low-income homebuyers in tandem with conventional financing;
2. Major subsidies through gap financing to rental project developers; or
3. Rehabilitation loans.

Interest Subsidies
Also known as interest rate buy-downs, these are effectively prepaid interest at the origination of the loan. The effect of these buy-downs is the same as a zero percent deferred payment loan.

Compensating Balances
A bank may be willing to reduce an interest rate for a partnership development if the City then deposits in the bank for a certain term. At the end of the term, the City regains its deposit in full, but the bank retains any interest earned to offset the original lower interest rate. This is often not an efficient use of funds due to inflation, but is a possible option.

Tax-Exempt Bonds
The City can leverage its tax-exempt bonding power to support financing of an affordable housing project. This can also reduce the housing costs in the development and increase affordability.

Revolving Loan Fund/Housing Trust Fund
A revolving loan or housing fund can employ many of the tools mentioned in this chapter, such as down payment assistance, interest reduction, rehabilitation loans and deferred payment loans. A common usage of this mechanism is the zero percent deferred payment loan. The loan is due in full when the title changes and then "revolved" back into the fund to be used for another household. Like rent subsidies, this can be useful to the City to aid in affordable housing with the current housing stock. These funds can also be used to enable public-private partnerships. These efforts might include predevelopment costs or

design and construction costs. Some tourism communities have shifted lodging taxes or sales taxes to these types of funds, but many other sources can be used and supplemented by grants and donations.

Housing Rehabilitation

McCall has several units that are older or in disrepair. In public meetings, it was noted that it was difficult to find appealing units for middle-class families. Options to address these issues and improve housing options throughout the City include grants, property tax abatements, and subsidized loans.

Land Banking

Land banking is simultaneously an investment for the City and a way to control housing growth. The City purchases and holds land that is either vacant, under-developed, or in disrepair and converts them into usable space, ensuring they go towards local housing projects. This could be used in conjunction with a Community Land Trust. In some cases, this can be in anticipation of rising land prices. The return on investment can then help fund or subsidize development of affordable housing units.

Community Land Trust (CLT)

In communities where home prices are rapidly out-pacing local working incomes, these are one of the most widely recommended systems for providing affordable housing across all income groups for local, permanent residents. A CLT is managed by a nonprofit and they separate the title to the land from the title to the built structures, allowing the CLT to maintain housing units on long-term land leases. This allows full control and deed-restrictions on the property ownership and resale price. The structure of CLTs encourages long-term residency, provides the benefits of single-family properties at an attainable price, gives equity gains to owners, all while maintaining price and control. A major benefit of the CLT structure is that it also allows the CLT to intercede in cases of foreclosure. Homeowners in a land trust are ten times less likely to default on their homes. If the property does enter foreclosure, the CLT still maintains control over the property compared to simple deed-restricted properties where residency requirements would be stripped from the property. The resident only needs to secure a mortgage for the purchase price of the structure. It is critical that the managing entity work with local lenders to ensure the CLT covenants are acceptable for obtaining loans or to assist buyers in securing mortgages. CLTs are eligible for USDA Rural Development Site Acquisition Loans, RCAC Site Acquisition Loans, and often involve land and money donations.

Deed Restrictions

Deed restrictions place restrictions on the property for how an owner may use or resell the property. These restrictions can be similar to those found in Community Land Trusts in promoting permanent affordability, like resale price controls and income restrictions. However, the life of deed-restrictions is not as long term as CLTs and does not provide the same controls over the property. This can be especially important if the property comes under foreclosure. Deed restrictions can be used on existing properties, rather than just new construction and can also be used for both rental and owner units. In homeownerships, it could include resale price controls, “silent” second mortgage or lien, right of first refusal, or buyer income restrictions for resale. Rental examples include tenant income restrictions and partnership agreements, land use agreements, and restrictions imposed by funding sources.

Limited Equity Housing Cooperatives (LECs)

LECs are stand-alone corporations that are owned collectively by residents. They are started with an initial subsidy, but obtain financed through a blanket mortgage and then restrictions are managed through a shareholder agreement that specifies resale restrictions and income requirements. LECs are sponsored by the City to provide initial and ongoing support.

Tiny Homes

The tiny house movement is as much a social movement towards minimalism as it is a practical solution to affordability. These homes are less than 1,000 square feet, though a true "tiny" house is usually less than 400 square feet. While these homes are cost effective in their building cost alone, they also save residents money in most other housing costs that multiply with home size. These properties also have the advantage of needing less land per unit and multiple units can be provided for the same cost and land space as one traditional unit, while maintaining the autonomy appeal of a single-family home.

While the perception is that this movement is driven by Millennials, the American Tiny House Association reports that most tiny home owners are in their 40s and 50s. These homes are a good match for empty nesters looking to simplify, retire early and live in more scenic areas, like McCall. They are not great matches for working families. Young couples looking to start families in the near future may not treat a tiny home as a permanent housing solution. Tiny houses can have a helpful role in freeing up units in McCall for local families and providing permanent housing for older residents.

The City could directly support a tiny home development through funding and incentives, or simply pave the way for private development through favorable zoning and utility structures that make accommodations for tiny home projects. Tiny house options likely in McCall are accessory dwelling units (ADUs) on foundations, tiny lot subdivisions, or long-term leases of "pads" (similar to trailer parks), all of which would require individual water/sewer hookups. Units on wheels would likely still require individual water/sewer hookups and would be more for seasonal workers. The uses (recreational vs. local housing) would need to be controlled by deed restrictions/permanent affordability covenants.

Employer Supported Model

Some communities with heavy tourism put pressure on employers to provide housing assistance to employees. This could be as far as providing actual housing units, or encouraging wage and benefit incentives to subsidize housing costs. For employers, it can be an effective recruitment and retention tool. Many of the cities analyzed in the case studies provide housing for City employees at a subsidized cost.

Accessory Dwelling Units (ADUs)

Accessory units are additional units to a single-family home, such as a basement apartment or a guest house, that are rented to a second household. McCall currently allows accessory units and these are a great way to increase housing stock within an existing built community. These improve rental options and availability with little extra cost to the City and extra income for residents, effectively improving affordability for existing homeowners. In order to effectively help local-housing, deed restrictions with occupancy requirements could be implemented; however, these are difficult to enforce for these units.

Chapter 5: Financial Feasibility

To provide more local housing options, decisions of both city planners and developers will need to be coordinated. Current housing supply results in a lack of options for median-income earners, and, consequently has led to a transitory workforce.

Construction costs in McCall are notably high, and are mainly due to labor shortages. Costs for single-family home construction in Boise are roughly 20 to 25 percent lower than in McCall, as labor is more readily available. If developers cannot bridge the gap in labor rates with higher home prices in a community, they will look to build elsewhere. Currently, lower-end homes in McCall, per information provided by local construction companies, can be built from $170 to nearly $190 per square foot. Homes with more custom-designed interiors have costs above $200 a square foot.

For local housing to be feasible (i.e., built to price levels that can be attained by median-income earners), construction will need to be at the lower end of the possible spectrum, or, at $170 per square foot. Considering that the likely price threshold is near $200,000 (based on a 20 percent down payment, and currently achievable mortgage rates, property taxes, HOA fees, insurance, etc.), home size would be near 1,200 square feet ($200,000/$170). Both one and two-bedroom designs would be supportable at this size.

The following photographs show potential housing designs that could be financially feasible, and, allow for smaller-sized units in a moderate to high-density arrangement. Similar type units would be of two-story design, with ground floors of larger size than second stories. Roughly 300 square feet of front common area/yard space would be necessary per unit, which would include driveways and sidewalks. With consideration for parking (not included in the 1,200 square feet), density would be supportable at roughly 30 to 40 units per acre.

The matrix below shows the likely size and layout characteristics of affordable housing that could be achieved in McCall. To attract developers to a project that would result in housing values near $200,000, the City may need to provide for density allowances of 30 to 40 units per acre in high-density residential areas and commercial areas. Additionally, requirements for parking should be kept to one space per unit,

as developers will struggle to achieve necessary profits if additional parking is mandated. Furthermore, requirements for common area amenities should be kept to a minimum.

TABLE 22: POTENTIAL HOUSING DEVELOPMENT

	Housing Type – Details	What is Required of Developer	What is Required of City
Residential Construction	1,200-square feet average, one and two-bedroom townhouse designs, two-story, one parking space per unit, roughly 300+square feet of common area/front yard space per unit. Density of 30 to 40 units per acre	Lower end units that have secondary locations (lower land prices). Homes would likely be of two-story design to allow for density and one garage space per unit	Density allowances of 30 to 40 units per acre. Allowance of one parking space per unit. Limited common area amenity requirements. 40 units per acre is allowed in the Community Commercial Zone.
Cost – Residential Construction	$170 per square foot, including all land costs and a profit allowance	Potential of taking a reduced profit allowance (in order to achieve the appropriate valuation level)	Costs can be partially offset by expedited approval and entitlement periods. Greater returns are achieved when holding periods are reduced.

Developers may need to accept reduced profit allowances on a project such as described above. They can achieve higher profits currently on more expensive offerings. However, if entitlement and approval periods are expedited, and density allowances, parking requirements, and common area needs are adjusted as described, the returns may be sufficient to entice development.

Presently, profit margins on single-family homes at the upper-income levels is significant, ranging from 30 to 40 percent in some cases. This is notably greater than the profit achievable with local housing. Consequently, developers will continue to pursue high-end single-family homes over alternative options, as the returns are superior. Additionally, the following considerations are made for why developers may not choose affordable housing in the present economic climate:

- Market conditions are notably strong for high-end housing in the current economy.
- Most buyers of upper-end single-family homes are doing so with cash purchases, removing the risk of acquiring financing.
- Homes at the high-end level are built build-to-suit, with the end user secured at the beginning of the project. With affordable housing, the developer does not see cash until the project is completed and the absorption period commences.
- Affordable housing may have design requirements and guidelines that are met with inspections that could delay or hinder the progress of a development.[21]

[21] This may not be an issue in McCall, but many communities in states such as CA require interior buildouts of affordable units to be similar to requirements of market-rate units. Some communities even require additional inspections for affordable units to ensure that corners are not being cut for items such as quality of insulation, plumbing fixtures, etc.

Again, the current economic climate is such that developers have *superior* returns available from market-rate units, and the reality may be that market conditions need to shift to allow for more attention to other areas of the residential sector.

Chapter 6: Housing Strategies and Implementation Plan

The ultimate goal of this report is to identify specific things the City and community partners can begin doing to provide additional affordable housing options for existing and future residents. This chapter includes funding and implementation tools that could be considered, as well implementation strategies and next steps for the most viable implementation tools.

Funding and Implementation Tools

A variety of funding and implementation tools are listed in the following table. Each tool includes a description of the tool, pros and cons, and whether the tool could be achievable in McCall. McCall will need to use a combination of several funding strategies in order to achieve its housing goals. Without a dedicated funding source, the City and community will not have sufficient funds to implement many of the housing tools. The applicability of various strategies may also change over time, as economic conditions change. For example, increasing the local option tax (LOT) would be a good option for McCall, which could increase its current revenues of $1.1 million annually, just by increasing the one percent charged on all non-grocery retail sales to two percent.

TABLE 23: FUNDING AND IMPLEMENTATION TOOLS

Tool	What it Does	Pros and Cons	Achievable in McCall?
Urban Renewal District (URD)	The mission of the renewal district could include housing, which would need to be within the bounds of the district. Requires the City to identify key land parcels for future land banking. Key land parcels that would be ideal for affordable housing (near employment, near transit) are noted to be within the proposed boundaries of a new district.	The McCall Redevelopment Agency has an existing district, but is looking to pay off the bonds before 2021 and implement a new district.	Likely – creation of a new district is a primary recommendation.
Land Banking	Setting aside funds for purchasing of	Allows developers to start projects without	A strong possibility for McCall, dependent

Tool	What it Does	Pros and Cons	Achievable in McCall?
	land or holding existing city-owned lands for future housing development. Would work well with the Transfer of Development Rights (TDR) considerations if the City owns other properties with developmental rights.	significant upfront costs if land is provided as part of a joint-development agreement or as a partial donation in order to secure deed-restricted housing for locals.	upon available land and resources for acquiring property. Has worked well for other resort communities.
Creative Micro and Tiny Housing Development	Modular housing in the form of micro and tiny homes has become more affordable, and more sophisticated in its style and design. Some areas in the Intermountain West have had success by allowing zoning changes that permit modular housing, but with specific design standards. A developer can maximize density on small lots with multiple units, and the end product is often a desirable, lower-income community.	Benefits include more affordable housing options. Potential detriments include public perception to unattractive modular housing, although numerous housing communities have shown that end products can be desirable. Temporary units are much more affordable to build but are generally suitable only for disaster-relief situations, classrooms, mobile showrooms and construction site/sales offices. They have much lower Code requirements but are far more difficult to relocate or convert to permanent housing. Many states consider them "personal property" because they are not affixed to any real estate and they	Strong possibility that will allow affordable units at profit levels for developers that will be enticing. Could be used as temporary housing on vacant properties. Tiny house options likely in McCall are Accessory Dwelling Units (ADUs) on foundations, tiny lot subdivisions, or long-term leases of "pads" (similar to trailer parks), all of which would require individual water/sewer hookups. Units on wheels would likely still require individual water/sewer hookups and would be more for seasonal workers. The uses (recreational vs. local housing) would need to be controlled by deed

Tool	What it Does	Pros and Cons	Achievable in McCall?
		therefore depreciate in value over time.	restrictions/ permanent affordability covenants.
Inclusionary Housing Ordinance	Requires properties to have a certain amount of below market rate housing in order to obtain approvals. Deed restrictions keep the properties at below market rates in perpetuity.	Typically allows for 20 percent of units to be below market rate (BMR). Creates some concern with developers about influence of BMR units on standard units. Is often a condition of receiving increased density or some other incentive that offsets the loss revenue from BMR units.	Yes - current code allows for plenty of density; in fact, more than the market will allow; No – Inclusionary Zoning was determined unconstitutional under Idaho law by the 4th District Court; therefore, this is only feasible through negotiations with the developer for other incentives, including increased density
Expedite Approvals for Price-Restricted Projects	Increases developer internal rates of return (IRR). Makes McCall more competitive with other cities in attracting development. Requires the City to have a streamlined process with existing design standards.	Encourages development and results in greater returns. Requires less oversight and planning involvement.	Yes - City currently has a 45-day timeframe and is fairly efficient; if a developer does deed-restricted housing, the developer gets additional density. The City currently allows for 40-60 units per acre, but the City has found that developers are not interested in much more than 24 units per acre.
Sales Tax/Local Option Tax (LOT) – Tourism	A tax charged to occupants of hotel and motel rooms, as well as private campgrounds and vacation home rentals - if less than 30 days. The tax	Competitive with rates charged in other states. The proceeds for the existing LOT can only be used for City infrastructure, cultural and recreational facilities and activities, parks,	A strong possibility. The City needs to reapprove this tax in 2018. Include housing in the new ordinance.

Tool	What it Does	Pros and Cons	Achievable in McCall?
	rate is 3%. Includes a tax for all short-term rentals, including Airbnb (as of December 1, 2016). Resort cities have a choice in what's taxed and can include everything that's subject to the state sales tax. McCall has enacted this tax to 3 percent. It is designed to lessen the undue burden placed on the taxpayers of resort cities. The existing tax can be used for the following purposes: City infrastructure; cultural and recreational facilities and activities; parks; animal shelters; and marketing. Or, the City can target infrastructure costs from an area and build the infrastructure for housing projects.	animal shelters, and market tourism and travel to Idaho, and does not currently allow for any housing funding. Revenues from LOT can be used for any purposes approved by the public when the LOT is approved (Idaho Statute 50-1047). McCall has this tax up for vote again in 2018; if not passed, it will expire. At the time of the renewal vote, McCall could modify uses to include local-serving housing.	
Increase Zoning Densities	Increase zoning densities in areas which have more affordable land prices. Allow for smaller homes on smaller lots. If connections to	While it does encourage affordable housing options, increased density raises questions regarding traffic, calls to service, and pressure on schools. This model has been successful in	Yes - has already been done with limited positive impacts; could potentially build more certainty into the rezone process as developers will know upfront the density

Tool	What it Does	Pros and Cons	Achievable in McCall?
	transportation are available, parking requirements can be reduced. The result is lower overall values than larger homes with full amenities.	numerous resort towns, as well as moderate and large-sized cities throughout the west. Spot zoning should be avoided.	that can be built on various properties in the City.
Accessory Units	Allowing for ease of construction of accessory units or conversion of existing space into rental units.	Has been allowed in McCall since 2006. If building is less than 1,500 sf, only a building permit is necessary. Has not many spurred long-term rentals.	Likely, but results have not been significant. May need to explore deed restrictions for ADU's to make this tool effective in achieving long-term rentals.
Federal Housing Tax Credits	Developers utilize federal housing tax credits for low income housing units. The credits are usually obtained in conjunction with a housing non-profit. Housing prices are set at a percentage of the median value, as well as what is affordable based on a percentage of wages that are typically 60 to 80 percent of median incomes.	Can be a time-consuming process, with federal preferences for properties with near access to transportation, employment centers, and educational opportunities. Much easier to secure this funding in large cities, but has been done in numerous resort areas, like McCall and Donnelly.	Yes. McCall would be competitive in the region given the need. Some support from other resort communities. Preference should be given to mixed-income developments.
Community Land Trust (CLT)	A trust is established that typically results in efforts of preservation or restoration of open space. It can be used for dedicated housing, and has	Requires active management of the trust, with typically the developer entering into a land lease agreement for the property (often at 99 years). The trust requires deed restrictions to the use of the site, and the	Less likely. A long-term possible option, but requires dedicated effort for an extended period to get the trust going, and to operate it efficiently. McCall currently has two forms of CLTs - a

Tool	What it Does	Pros and Cons	Achievable in McCall?
	been done in California and Oregon (as well as other states). It has been done for specific workforce housing, student housing, and below market housing.	affordability of the units. Resells of the property are guided by the trust. Does require significant funding to get started, some of which can come from federal grants. Most federal grants require access to mass-transit options, and proof of employment at certain available wages.	housing and a land trust.
Business Housing Co-Op	Has been done in some other resort markets. Businesses group together to provide housing for their employees.	Works when there are limited housing options in the immediate area for employees (i.e., national parks), and employers can save on wages by providing housing. May not be feasible in McCall given the proximity to other towns and cities.	Possible, but is generally more feasible with larger employers; however, small and mid-size employers could join together.
City Employee Housing Program	Similar to the business housing co-op, this is a City program which provides housing for City employees.	It can be an effective recruitment and retention tool.	Possible, and has been done in other resort and mountain-town markets.
Co-Housing	Co-housing is essentially a condominium project with private areas and shared common areas, and with CC&Rs that address the use and maintenance of the common areas (gardens, dining rooms, etc.)	Co-housing units are generally smaller and can be economical advantageous due to shared resources with other community members, including facilities and services. Disadvantages include a lack of complete control over one's property, and the planning process can take more time and ultimately cost more. Furthermore, the planning and executing of a co-housing	There are several co-housing developments in the United States, though currently none in Idaho. Because the entire concept behind co-housing developments is member-driven planning and operating of the development, City-sponsored co-housing is not likely to be viable in McCall. Co-housing could be considered on a case-

Tool	What it Does	Pros and Cons	Achievable in McCall?
		development is generally executed by a group planning to occupy the development, as they will create the CC&Rs.	by-case basis if presented to the City but a co-housing group.
Transferable Development Rights (TDR)	Ability to transfer development rights to other properties within a city. Allows for maintaining open space where desired, while encouraging development in other places. Available in Idaho, with the creation of "sending" and "receiving" zones.	Allows for density to be traded to other areas. The fast facilitation of trading of development rights has helped several cities jumpstart certain construction in select areas. Requires the identification of sending and receiving areas. Is dependent on the initiative of the property-owner or developer.	Possible, and has been done in other resort and mountain-town markets.
Green Initiatives	Tax credits, utility credits, or reductions in impact fees, connection fees, etc., are made for development that encourages green construction. This can include sourcing local materials, using local workers, recycling rain water, solar power options, recycled building materials, etc. Grants are available from a federal level for properties which install electric car charging stations, or, conform to a	A niche market that does not appeal to a number of developers. Furthermore, costs of green construction can be high for certain improvements, thereby making affordable housing somewhat questionable.	Possible, but impact is somewhat limited in present market. However, tax and utility credits can provide some appeal.

Tool	What it Does	Pros and Cons	Achievable in McCall?
	variety of green standards.		

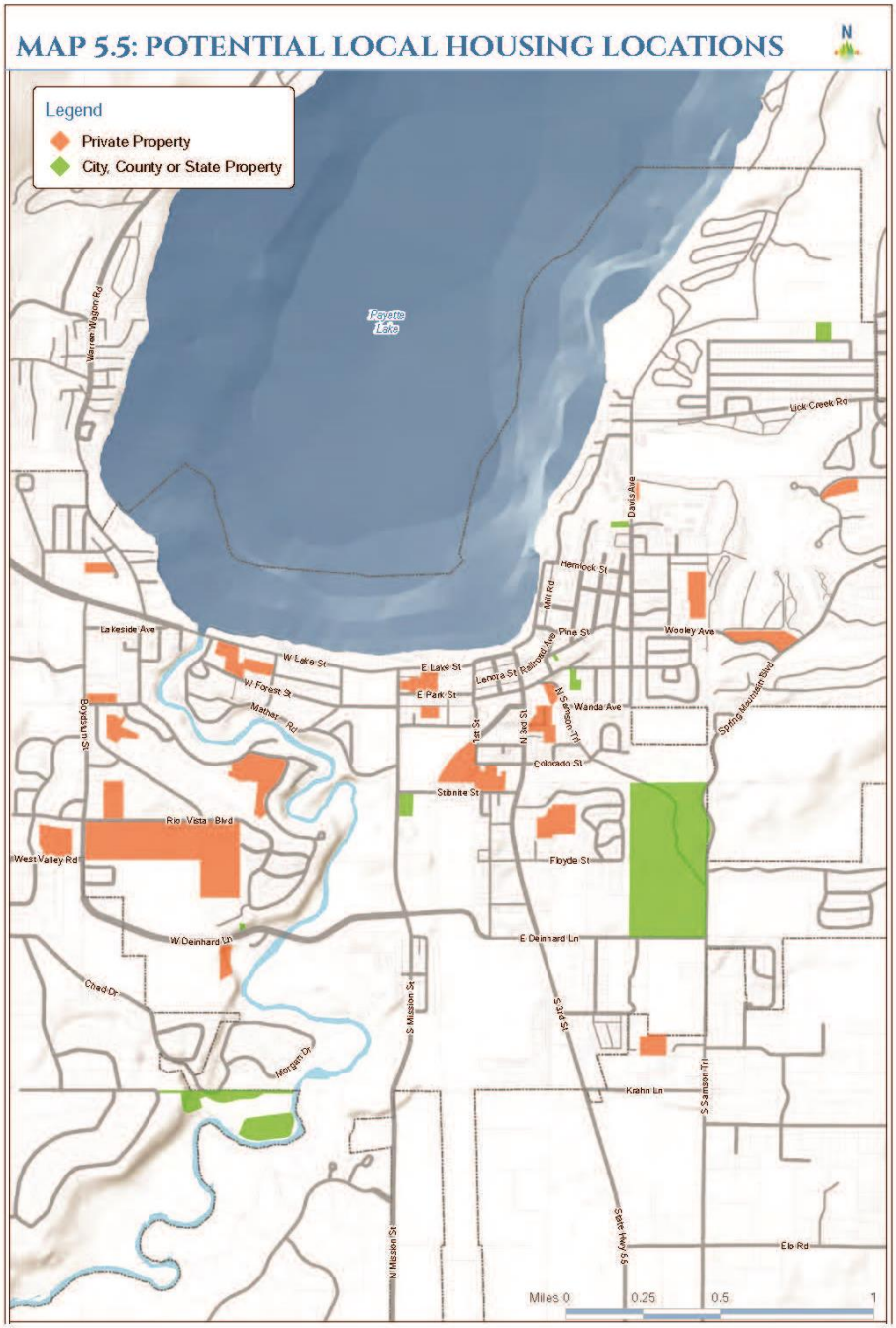
Implementation Strategies and Next Steps

The following implementation strategies and associated next steps come from the Funding and Implementation Tools and are the tools that were determined to be the most viable for McCall.

Land Banking

Purchase, zone or identify parcels in key areas near transit and essential services that are ripe for redevelopment, either through visually decaying appearances or through lower-than-average improvement values per acre in the area as shown in this report. An urban renewal district can be an effective tool in redevelopment.

FIGURE 15: POTENTIAL LOCAL HOUSING LOCATIONS (SOURCE: MCCALL COMPREHENSIVE PLAN)



1. Identify funding source for City to acquire land.

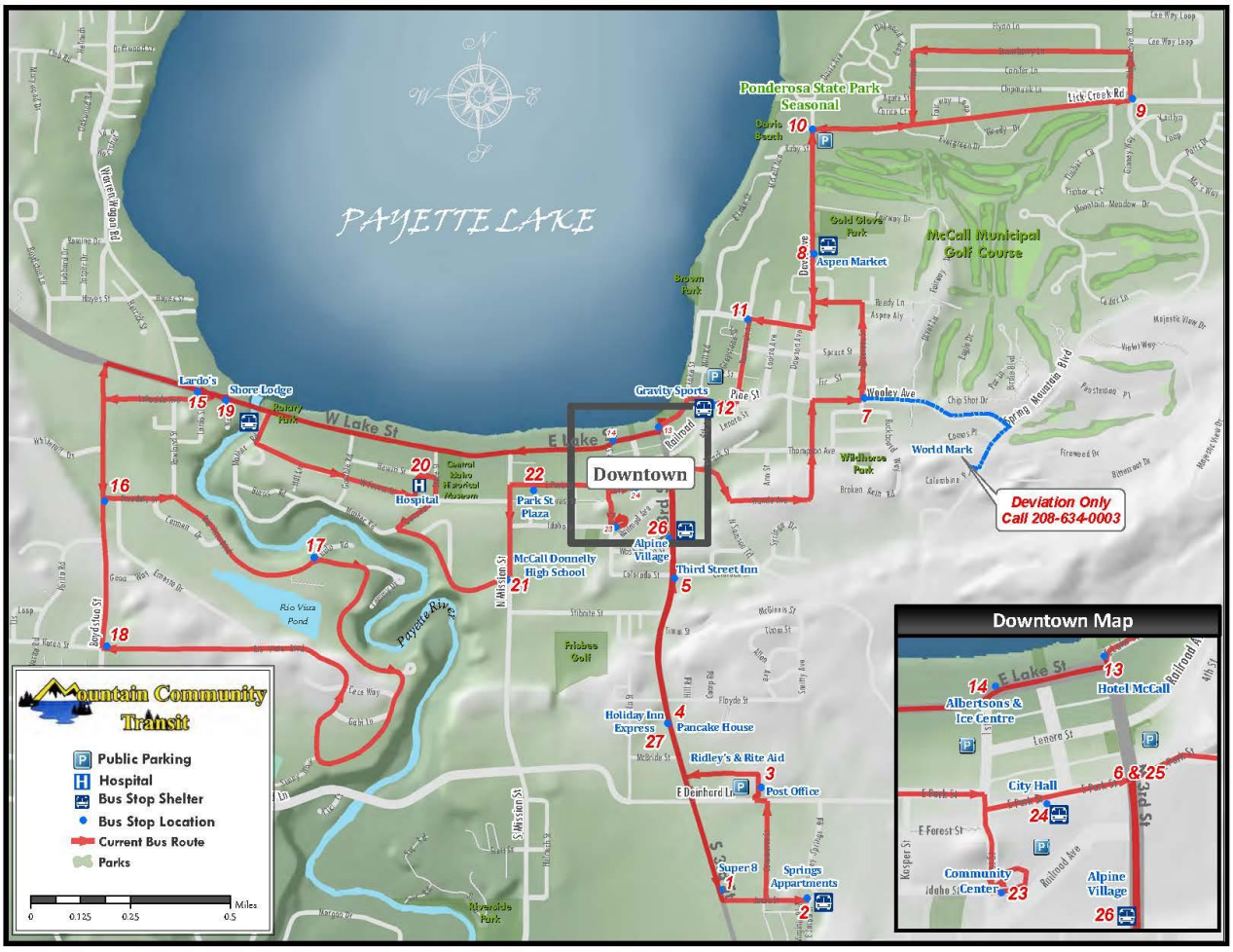
2. City should identify specific sites which will be appropriate for development of local-serving housing (i.e., proximity to transit, type of neighboring uses, visually decaying appearances or lower-than-average improvement values per acre, etc.). The City's Comprehensive Plan has identified specific sites which should be the priority for future land acquisition, subject to land owner interest and market conditions (see the map above). Sites may include those which have transferable developmental rights that could eventually be used for local housing.

   This study identifies general neighborhoods by focusing on encouraging development near public transit and essential services, and in areas with lower improvement values.

   a. Encourage new housing development near public transit routes.

Based on Mountain Community Transit Routes, the most likely sites for the development of affordable housing are east and immediately south of the lake. Other maps will show that there is currently more affordability in these areas than to the west of the lake.

FIGURE 16: PUBLIC TRANSIT

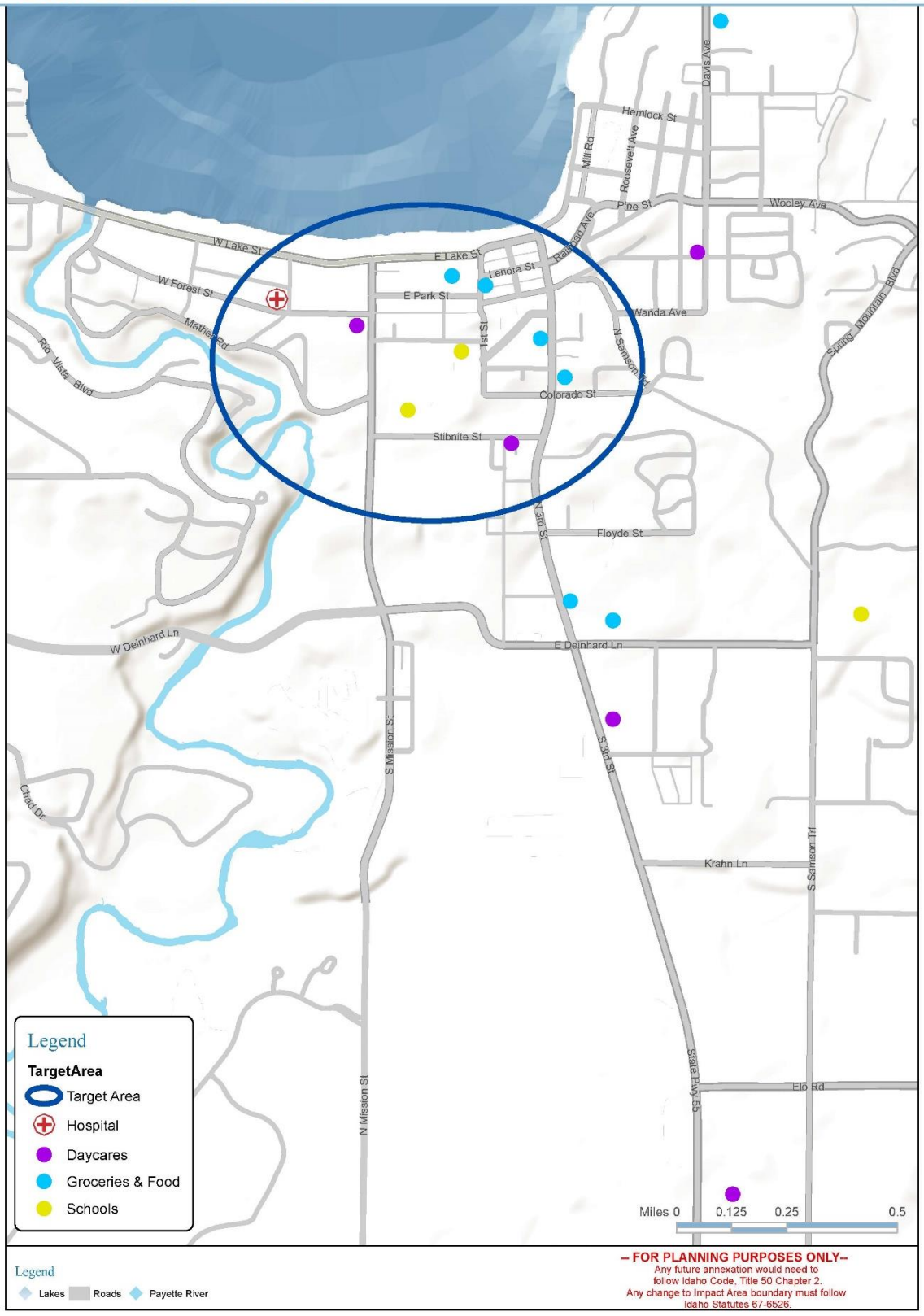


In addition, there are several properties with redevelopment potential and that are within walking distance of public transit. The City should encourage the development of local housing near these public transit routes and pathways through changes in zoning and the allowed mix of housing types.

b. Identify sites for locally-serving housing near essential services.
Essential services such as grocery stores, hospital, and daycares are largely located near the downtown area and are also accessible to transit. The area shown in the blue circle in Figures 17 is an ideal location for future local housing development.

FIGURE 17: MCCALL CONVENIENCE SERVICES

Convenience Services

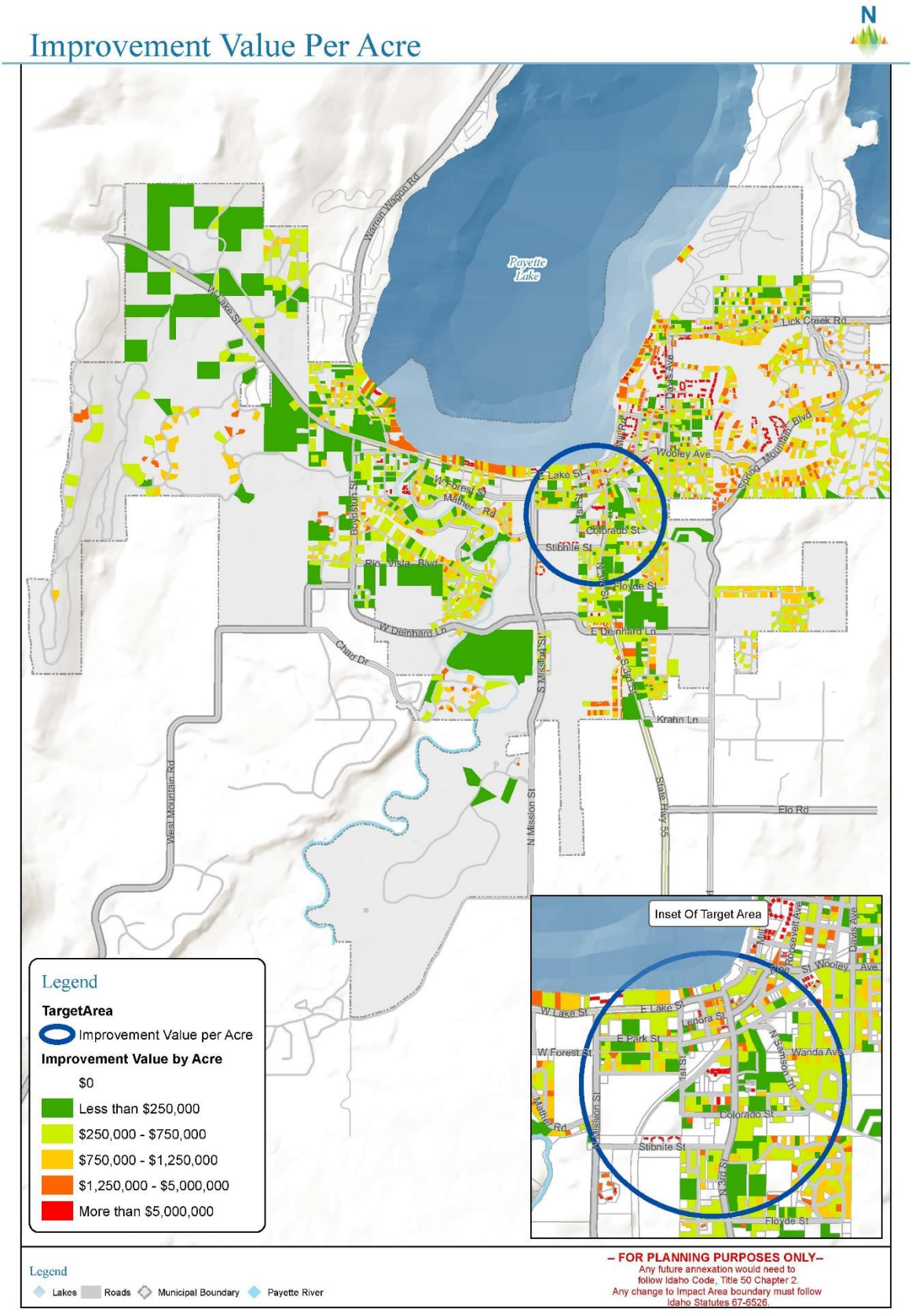


c. Identify specific sites within the targeted area with lower-than-average improvement values per acre.

Potential redevelopment properties generally have lower improvement values per acre. The lowest improvement values per acre are generally located on the outskirts of town. However, there are some potential properties near transit and the downtown area. The map below shows the targeted area, based on better connections to public transit and accessibility to essential services.

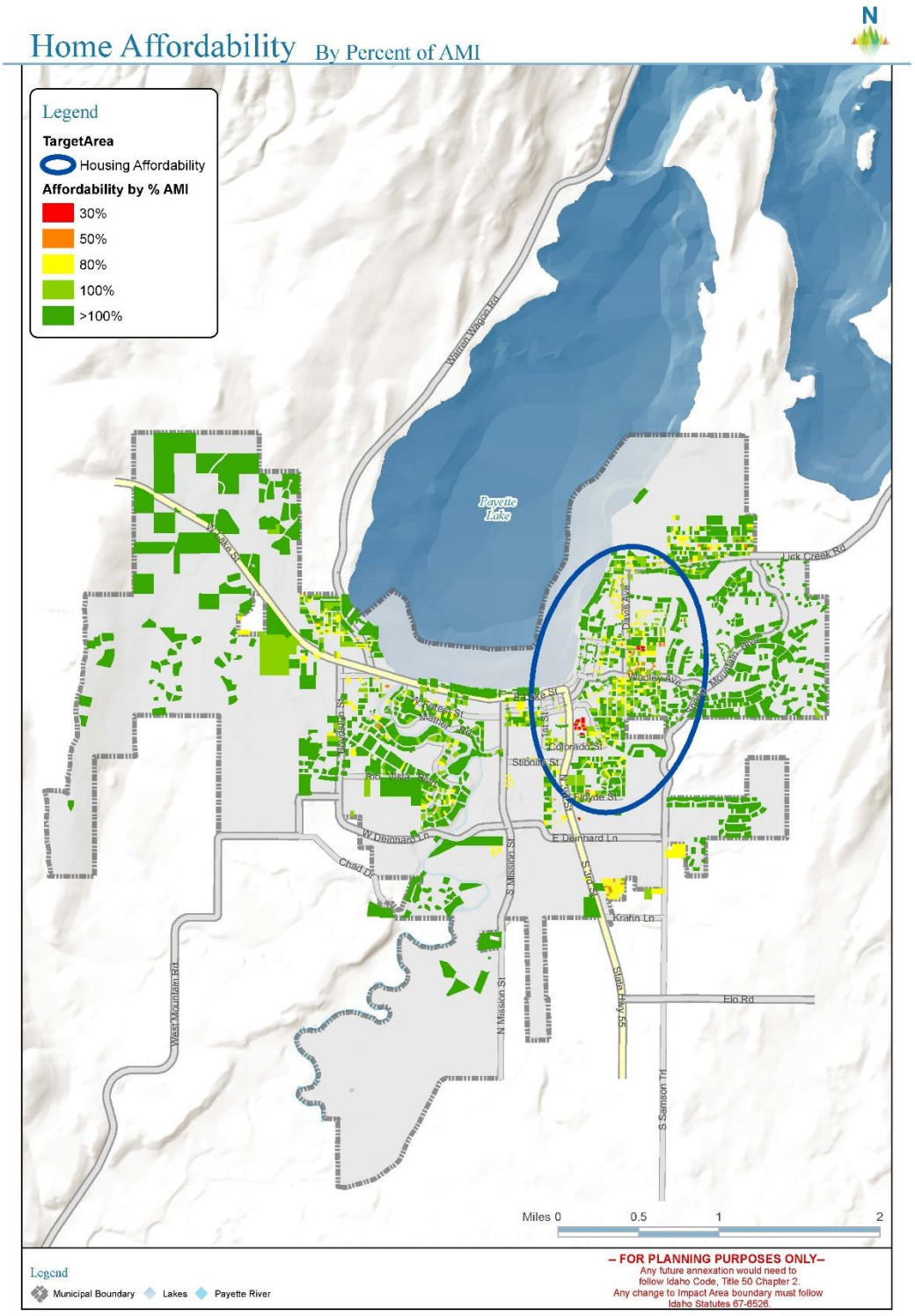
Focusing in on the targeted area, there are several neighborhoods with lower-than-average improvement values per acre. This suggests that there may be redevelopment potential for these properties. Higher-density uses could be appropriate at these sites, thereby reducing costs through lower land costs on a per unit basis.

FIGURE 18: MCCALL IMPROVEMENT VALUES PER ACRE



d. **Ensure that redevelopment does not displace existing affordable housing with other uses.** The targeted area appears to have a fair amount of affordability at 80 percent of AMI and a smaller amount of affordability at 30 to 50 percent of AMI.

FIGURE 19: HOME AFFORDABILITY BY PERCENT OF AMI



e. Allow for a mix of uses in the targeted area, so that higher-density residential units can be integrated with commercial uses.

1. Ideal sites for new local housing would be near existing commercial areas, densifying residential development to reduce land costs and thereby increase affordability.

2. Perform highest and best use studies on the specific sites to understand how much the City should pay for the land.

3. Meet with prospective developers to gauge interest in the proposed developments and, particularly, in joint development agreements.

4. Purchase land following highest and best use analyses and agreements with developers.

5. RFP/RFQ process to select developers for housing developments

Small Home/Manufactured Housing Developments
Encourage micro and tiny housing that would be more affordable to locals. This is another type of housing but is not expected to replace existing housing types.

1. Create design standards for manufactured housing and small home construction that fit with City aesthetics and specific neighborhood patterns. Some examples of cities that allow tiny homes include Walsenburg, CO; Durango, CO; Rockledge, FL; Nantucket, MA; Detroit, MI; Portland, OR; Spur, TX; Austin, TX; Fort Worth, TX; and Dallas, TX.

2. Minimum size requirements for mobile homes could be removed in the Code. This is a technique used in other jurisdictions to allow for small homes.

3. Meet with developers to gauge interest in the design standards.

4. Survey market for demand characteristics to project potential absorption of this housing type.

Urban Renewal Area (URD)
The creation of an Urban Renewal Area can be an effective tool in redevelopment and providing additional housing options within the City.

1. Create an urban renewal area in the City's Downtown and use the tax increment for local-serving housing.

2. As a general guideline, for every $1 million in increased taxable (assessed value), nearly $8,900 would be generated in incremental property tax revenues annually.[22] Over ten years this would represent

[22] Calculation based on the following taxing entities and tax rates: McCall City (0.4928416); Valley County (0.1771007); Valley County EMS (0.0229143); McCall Cemetery District (0.0016943); McCall Fire District (0.1143258); McCall Memorial Hospital District (0.0608048); and Payette Lakes Water & Sewer Districts (0.0199672).

revenues of approximately $89,000, and $178,000 over 20 years, and could be used to incentivize local-serving housing. Significant development must occur in order to generate significant tax increment property tax revenues.

Local Sales Taxes

Local Option Tax (LOT) - Revenues range from year to year, but are anticipated around $1.1 million from the one percent on all non-grocery retail sales, $487,000 from the three percent on lodging for streets and another $487,000 from the three percent on lodging for tourism.

1. Consider increasing the one percent to two percent, similar to Sun Valley, thereby providing an additional $1.1 million per year for local housing programs.

2. This tax is up for vote again in 2018; if not passed, it will expire. At the time of the renewal vote, McCall should modify uses to include local-serving housing.

Other Steps

1. Incentivize developers to build local housing in the private market by granting higher density for affordable units. The City currently has density limits in the CBD (60 units/acre) and the CC zone (40 units/acre); however, the draft code removes these density limits. It is important to allow higher-density residential development, especially in the downtown area.

2. Ensure that future development has a local housing component and does not displace existing affordable housing with other uses.

3. Partner with local groups such as the Housing Trust, churches, Habitat for Humanity, colleges, etc., to construct housing at a lower cost.

4. Other communities have created employee housing programs to provide housing options for city employees. Creating this type of program in McCall would rely on executing many of the next steps already identified, including land baking, selecting developers through an RFP/RFQ process, and securing a dedicated funding source.

5. Work with the Legislature to allow local communities to use Inclusionary Housing as a tool to create affordable housing.

6. Streamline the permitting process for locally-serving housing units.

7. Consider fee waivers for projects that include local housing units.

Appendix A: Commuter Data

Residence	Number of Employees
McCall, ID	367
Boise City, ID	106
Cascade, ID	68
Meridian, ID	58
Nampa, ID	46
New Meadows, ID	33
Caldwell, ID	25
Council, ID	25
Mountain Home, ID	21
Donnelly, ID	18
Lewiston, ID	16
Twin Falls, ID	14
Marsing, ID	12
Weiser, ID	11
Eagle, ID	10
Homedale, ID	10
Kuna, ID	10
Pocatello, ID	10
Coeur d'Alene, ID	9
Baker City, OR	7
Idaho Falls, ID	6
Glenns Ferry, ID	5
Middleton, ID	5
Payette, ID	5
Rathdrum, ID	5
Robie Creek, ID	5
Pendleton, OR	5
Grand View City, ID	4
Grangeville City, ID	4
Hayden City, ID	4
Moscow City, ID	4
Spokane City, WA	4
Garden City, ID	3
Hailey City, ID	3
Hidden Springs CDP, ID	3
Idaho City, ID	3
Jerome City, ID	3
Kamiah City, ID	3
Lincoln CDP, ID	3
Parma city, ID	3
Post Falls City, ID	3
Rexburg City, ID	3
Smiths Ferry CDP, ID	3
LaGrande City, OR	3
Milton-Freewater city, OR	3
Cottonwood City, ID	2

Residence	Number of Employees
Fruitland City, ID	2
Harrison City, ID	2
Horseshoe Bend City, ID	2
Mountain Home AFB CDP, ID	2
Mullan City, ID	2
Murphy CDP, ID	2
Riggins City, ID	2
Rupert City, ID	2
Yellow Pine CDP, ID	2
Missoula City, MT	2
Hermiston City, OR	2
Portland City, OR	2
Union city, OR	2
Weston City, OR	2
Spokane Valley City, WA	2

Appendix B: Comparative Data

The maps below were completed for South Jordan, UT, but visually show the impacts of the Daybreak community – located on the western edge of the City. When affordability is considered on a unit/parcel basis, Daybreak is less expensive because of its higher density. However, when considered on a per acre basis, Daybreak is not less expensive. Therefore, Daybreak contributes well to the tax base of the community while, at the same time, offering more affordable housing units to a wider segment of the population.

Figure 25: Housing Affordability on a Per Unit Basis

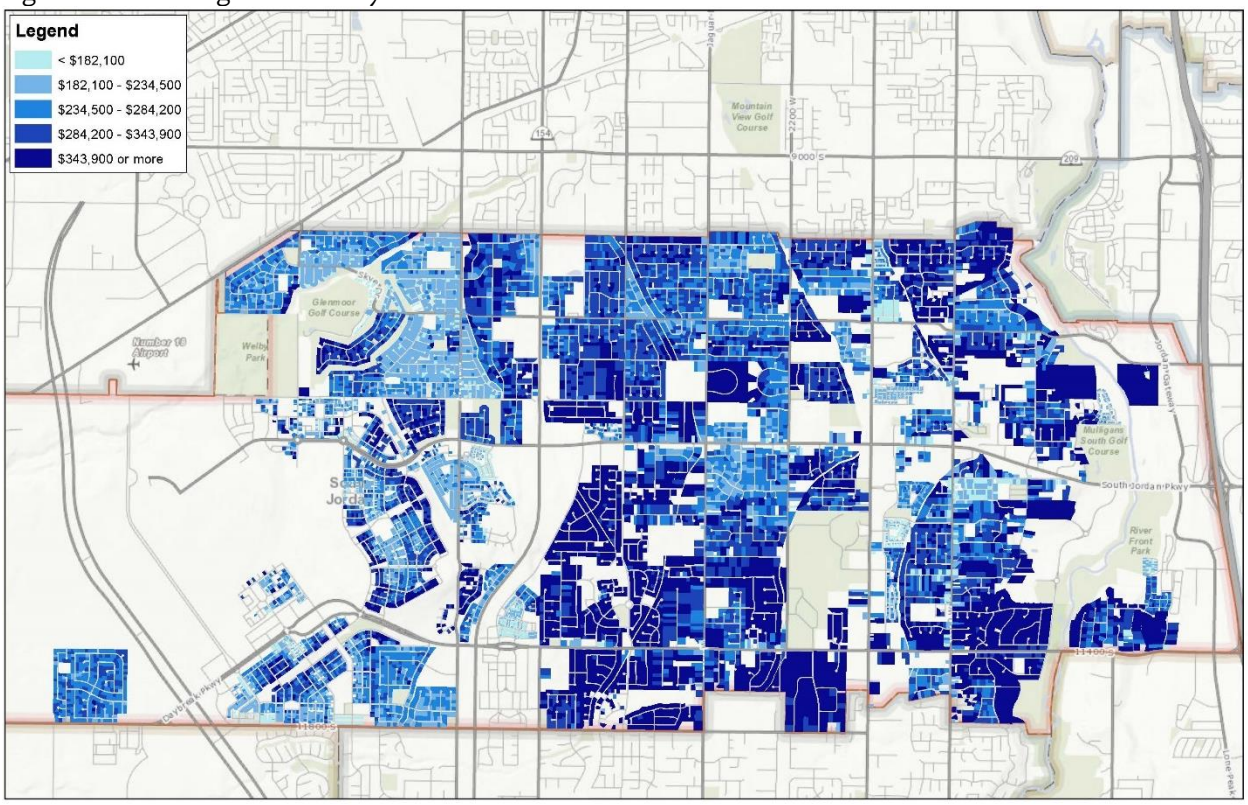
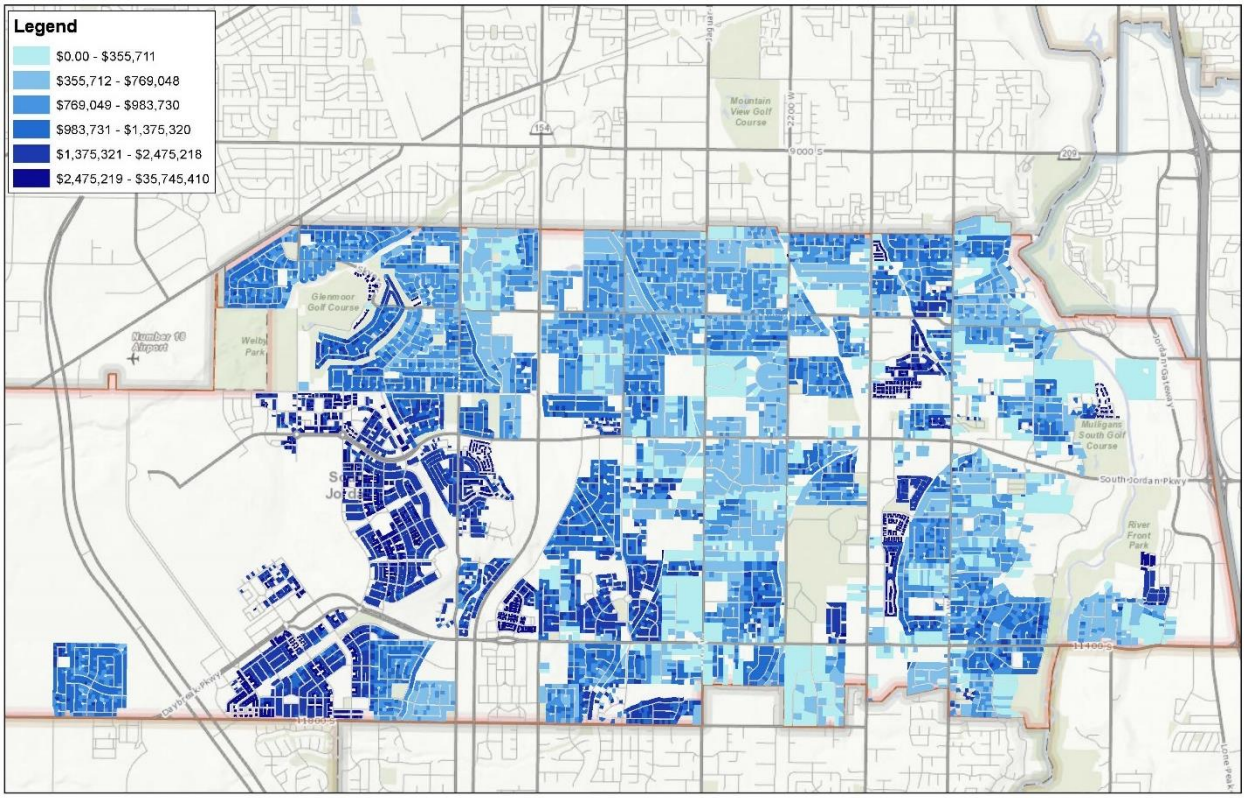


Figure 26: Housing Affordability on a Per Acre Basis



Appendix C: Sample Wasatch County Information Request

16.30.03 MODERATE INCOME HOUSING REPORT AND REQUIREMENTS
This chapter shall apply to all new developments of six (6) equivalent residential units (ERUs) or more. The requirement to provide moderate income housing shall be based on a moderate-income housing report provided by the developer. The moderate income housing report shall have, at a minimum, the following information: price of the proposed units/lots, anticipated mortgage payment per month with current interest rates, calculations showing the number of proposed units at or above the eighty percent (80%) AMI (including HOA fees, utilities using current rates, cable, other fees), an estimation of the moderate income housing impacts created by the development, average monthly pay for any employees created by the development backed up by industry standards, estimate of the number of contract employees created by the development, second home percentages anticipated, and a proposal to satisfy the moderate income housing needs created by the development. If the proposal is a resort development the applicant shall provide the proposed resort's seasonal workforce housing plan that provides moderate income housing in a socially, economically and environmentally responsible manner. The applicant may be required to provide additional information if deemed necessary by the county to determine the impacts on moderate income housing.

The moderate-income housing report provided by the developer will be reviewed by the county. At the sole discretion of the county the county reserves the right to have an independent study performed, at the expense of the developer, or to have the independent study provided by the developer reviewed by a source determined by the county. The county council, after reviewing independent reports provided by the applicant, reports and reviews commissioned by the county, recommendations by the planning commission and the Wasatch County housing authority shall determine if the applicant must meet the moderate-income housing requirements.

If a development is found to be creating a need for moderate income housing, the development shall provide an equivalent of ten percent (10%) of the development (in addition to the density approved) for moderate income housing through construction of affordable housing units on site within the development being proposed (if appropriate after reviewing constraints and type of development), construction of affordable housing units off site, contribution of land, or by payment of a fee in lieu. Any combination of the aforementioned options shall be allowed after recommendations from the planning commission, Wasatch County housing authority (WCHA) and approval by the county council. Preference shall be given for options that allow ownership opportunities for residents.

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Mining project's economic impact on local communities, as a social determinant of health: A documentary analysis of environmental impact statements

Jessica Hresc, Emily Riley*, Patrick Harris

Menzies Centre for Health Policy, School of Public Health, Sydney Medical School, The University of Sydney. Level 6 The Hub, Charles Perkins Centre D17, NSW 2006, Australia

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ABSTRACT

Australian mining developments cause indirect economic impacts on nearby communities leading to poor health and wellbeing of local residents. Economic instability is a recognised social determinant of health (SDoH); however, SDoHs are rarely considered adequately in Environmental Impact Assessments (EIAs). This research aimed to determine the extent economic impacts as a SDoH are considered in three Environmental Impact Statements (EISs) of mining projects in the New South Wales, Australia.

We adopted an exploratory case study design following Yin (2012). Three cases in New South Wales, Australia, were purposively sampled as being of concern to the local community who had sought legal advice about the content of the EIS (although not necessarily for health reasons). Two were open cut mines: Watermark located in the Liverpool Plains and Warkworth Continuation in the Hunter Valley Region. The third is a comparative case – the underground Mandalong Southern Extension located in Lake Macquarie. We adapted a health-focused EIA coding framework to investigate how economic indicators as SDoH were explicitly mentioned in EISs and applied this to the three cases.

Economic indicators as SDoH were rarely considered. There was a greater focus on population characteristics rather than the potential economic impacts of the mining projects on the communities. Causal association of economic determinants and health outcomes were insufficiently reported compared to best practice, and health data were not used to inform assessments. Despite two EISs – Warkworth Continuation and Watermark – associating some economic indicators to health outcomes, impacts were not adequately discussed when compared to the known literature on economic impacts of mines.

Our findings show that the three EISs were inadequately utilised to determine economic impacts of mining projects on the health and wellbeing of local communities. The evidence base linking economic impacts of mines to health is underdeveloped, which compromises assessing the quality of economic coverage in EISs. EIA scoping should enable sufficient inclusion of broader determinants of health using appropriate methodology, and the economic-focused content of EISs should be subject to rigorous peer-review process to fully inform government approvals for projects. Our methods lend themselves to research in other contexts to investigate the quality of EIAs.

1. Introduction

1.1. Detrimental economic impacts of mining on health and wellbeing

Mining developments cause indirect economic impacts on nearby communities leading to poor health and wellbeing of local residents (Mactaggart et al., 2016). Key health outcomes caused by flow-on effects from mining projects include poorer physical, psychological, and cognitive function from sustained economic hardship (Hossain et al., 2013; Lynch et al., 1997), and Australian research has also identified solastalgia, a term referring to the distress induced by environmental change (Albrecht et al., 2007). The causal pathways of mining developments on negative health outcomes are summarised in Fig. 1. A simplification of the scenario is mining developments typically cause an influx in population due to out-of-region mining employees moving closer to work. This leads to an increase in demand for housing and rental properties in communities with insufficient housing supply and inadequate property development (Lockie et al., 2009; Haslam

* Corresponding author.
E-mail addresses: emily.riley@sydney.edu.au (E. Riley), patrick.harris@sydney.edu.au (P. Harris).

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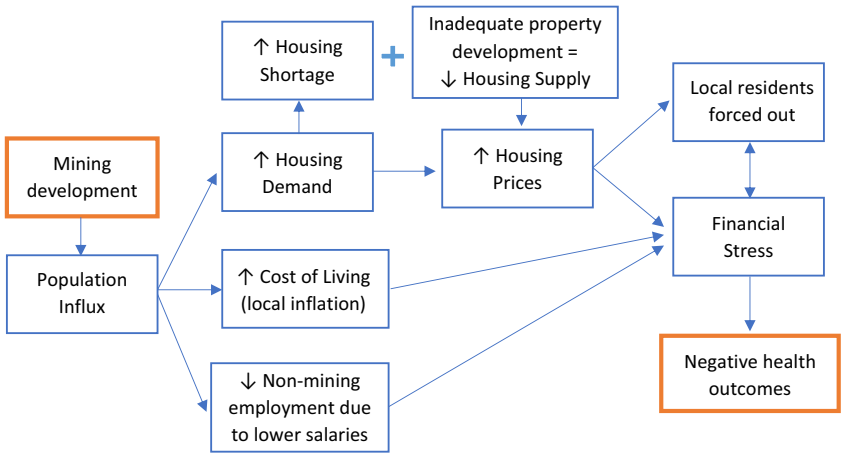

Fig. 1. Causal pathway of mining development indirectly influencing health outcomes of local community residents through indirect economic factors, based on published literature. (↑ means increase, ↓ means decrease).

McKenzie and Rowley, 2013), causing an increase in housing prices. Population influx concurrently leads to an increased cost of living (defined as inflation at the local level) due to mining workers on higher salaries contributing to the local economy, and also small businesses struggling to retain employees as they migrate to high-paid mining jobs. Consequently, local residents face financial and social pressures, and poorer mental health (Hossain et al., 2013), where the most vulnerable groups in society succumb to displacement from their local town (Haslam McKenzie and Rowley, 2013). Furthermore, mining developments exacerbate pre-existing socioeconomic disparities and income inequalities through the creation of dualisation in local communities. This refers to the large divide between those on high salaries working for mining companies and residents who do not work for mining companies on low uninflated wages (Haslam McKenzie and Rowley, 2013; Colagiuri and Morrice, 2015).

A recent study found mental health deterioration was associated with poor housing affordability, particularly among individuals living in low-income households (Bentley et al., 2011). This occurrence is parallel to other high-income countries such as the UK (Taylor et al., 2007). The financial strain experienced by individuals on lower incomes to meet increased housing costs is compounded by and impacts the capacity to meet other living costs such as food, transport, utilities, or health costs. This disruption to one's financial stability alters their sense of control over their life, impacting stress levels and ultimately psychological health. Additionally, a qualitative study of a Queensland mining town in Australia highlighted additional issues experienced such as stigma of mental illness, lack of awareness of mental health symptoms and lack of support services and mental health resources (Hossain et al., 2013), which may continually burden resident's physical and mental health status. This health status is also impacted by population influxes causing unsustainable pressure on already stretched local health care services such as increased wait times (Hossain et al., 2013).

1.2. Economic impacts as social determinants of health and EIAs

Economic instability is a recognised social determinant of health (SDoH) (Mactaggart et al., 2016); a term referring to social, economic, and political circumstances creating an environment which impacts the health and wellbeing of an individual (Schulz and Northridge, 2004). The economic instability experienced by residents in towns neighbouring mining projects may also be perceived as an indirect commercial determinant of health – where the private sector's activities are detrimental to the health of individuals (Kickbusch et al., 2016). This private sector influence on the economic stability of mining town residents is important to consider as previous research found significant life events or chronic stressors such as financial stress, job strain, and family problems were associated with socioeconomic position and was predictive of health and mortality (Lantz et al., 2005).

Improving economic stability as a SDoH aligns with a number of Sustainable Development Goals (SDGs) including poverty, good health and wellbeing, gender equality, sustainable cities and communities, and reduced inequalities (United Nations, 2015). Possible consideration of these goals during the planning of mining projects is through Environmental Impact Assessments (EIAs) (Jay et al., 2007). EIA is an international policy instrument adopted to varying degrees by the majority of member states of the United Nations (UN) (Morgan, 2012). This planning process tool is used to inform policy decision-makers of broader environmental and social impacts of major infrastructure developments, typically through a product of EIAs called Environmental Impact Statements (EIS) (Glasson et al., 2013). Previous research has identified how and why health is considered directly and indirectly in EIAs, including major infrastructure projects such as mining and transport developments (Harris et al., 2009; Riley et al., 2017; Pham et al., 2018). However, consideration of SDGs, particularly health and SDoH are rarely or inadequately considered in major infrastructure projects, including mining projects (Harris et al., 2009; Riley et al., 2017; Pham et al., 2018; Noble and Bronson, 2005). Further, EISs internationally have been shown to overlook the developmental project's causal influence on perpetuating socioeconomic inequalities (Harris et al., 2009; Kang et al., 2011). Meanwhile, health in EIAs tends to focus on health as physical deterioration from environmental factors such as quality of air, soil contamination, and noise pollution (Harris et al., 2009). This narrow framing of health in policy and practice is a prominent challenge even with a greater global awareness of indirect factors such as SDoH impacting an individual's health status (Marmot et al., 2008).

Given the importance of economic impacts on health, we applied a narrower focus on economic impacts as SDoH in a documentary analysis of New South Wales (NSW) mining project's EISs. The research question was 'whether economic impacts of mining developments on local communities were considered as a SDoH in NSW mining EISs'. Both positive and negative economic impacts as SDoH were considered.

2. Methodology

Documentary analysis of selected EISs was conducted by applying established social science methods (Harris et al., 2009; Riley et al., 2017). This is one aspect of a broader research program investigating health in EIAs of major infrastructure projects (Harris et al., 2015), with

Table 1
Comparison of case studies using coding analysis framework for investigating economic impacts as a SDoH in EISs.

	Mandalong Southern Extension	Warkworth Continuation	Watermark
Consideration of economic indicators:			
• Cost of living (local inflation)	No	Insufficient	Insufficient
• Dualisation or 'two-speed economy'	No	Insufficient	No
• Housing affordability	No	Yes	Yes
• Mining workforce population influx causing increased housing demand and prices	Insufficient	No	Yes
• Non-mining employment diversity	Insufficient	Insufficient	Yes
• Out-migration of residents	No	No	Yes
Discussion of potential associations and causal pathways of economic indicators and health outcomes:			
• Cost of living (local inflation)	–	No	No
• Dualisation or 'two-speed economy'	–	–	–
• Housing affordability	–	Insufficient	Insufficient
• Mining workforce population influx causing increased housing demand and prices	No	–	Insufficient
• Non-mining employment diversity	No	No	No
• Out-migration of residents	–	–	Insufficient
Health data and evidence: Use of health impact research evidence related to economic indicators	–	No	No
Discussion of possible interactions between project aspects, health determinants, health outcomes and health equity related to economic indicators	No	Insufficient	Insufficient
Discussion of distribution of health impacts across vulnerable/sensitive groups related to economic indicators e.g. low socioeconomic groups, women, and children	No	Insufficient	Insufficient

a focus on transport and mining (Harris et al., 2009; Riley et al., 2017). Additional research including stakeholder interviews in each case is being congruently undertaken to gain an in-depth understanding of health considerations in EIAs.

2.1. Multiple case design and sampling

An explanatory case study design was adopted following Yin (Yin, 2009) to enable comparative analysis of how and why phenomena occur by recognising similarities and differences across case studies (Riley et al., 2017). Inclusion criteria for selecting cases included the EIS being publicly available for a proposed NSW mining project; the EIS is dated within the last 5 years; a preliminary screen of EISs found health is included; and the EIS has an Environmental Defenders Office (EDO) verification that the mining project was of concern to the local community who had sought legal advice about the content of the EIS (although not necessarily for health reasons). Three cases were purposively sampled. Two were open cut mines: Watermark Coal Project located in the Liverpool Plains (Hansen Bailey for Shenua Watermark Coal Pty Ltd., 2013), and Warkworth Continuation in the Hunter Valley Region (EMGA Mitchell McLennan Pty Ltd for Warkworth Mining Ltd., 2014). The third is a comparative case – the underground Mandalong Southern Extension in the Lake Macquarie Local Government Area (LGA) (GSS Environmental for Centennial Mandalong Pty Ltd, 2013).

2.1.1. Background of mining projects

The Mandalong Southern Extension project is an extension of a current underground coal mine. Operations commenced in 2005 by Centennial Mandalong Pty Ltd., and after the proposed extension would employ an additional 420 full-time employees.

The Warkworth Continuation is operated by Warkworth Mining Limited and is located north-east of Bulga. The EIS is for a continuation of the project from 2015. At the time of the EIS, around 1200 employees worked for the mining company and the EIS proposed an additional 57 people would be employed full-time.

The Watermark Coal Project operated by the Shenhua Group commenced in 2008 and expects to hire up to 600 employees at the peak of the project. The EIS is considerably larger than the Mandalong Southern Extension and Warkworth Continuation EISs.

2.2. Data collection

EISs were publicly available and sourced from a government register of major projects (NSW Government Planning and Environment, 2017).

2.3. Data analysis

A comprehensive, health-focused coding framework was adapted from previous research and applied to the three cases using NVivo software (see Appendix 1) (Harris et al., 2009; Riley et al., 2017). The framework was designed to effectively assess the inclusion of health explicitly and implicitly in the EISs by integrating work the research team has previously conducted (Harris et al., 2009), as well as necessary requirements recognised for impact assessments to include health (Fehr et al., 2015), and best practice approaches to include health in EIAs (World Health Organisation, 2014). Coding and analysis was also informed by a framework designed to determine how social determinants of health are included in policy documents (Fisher et al., 2015).

The existing framework was modified for this research to encompass how either positive or negative economic impacts are framed and conceptualised in EISs as SDoH. Hence, 'a priori' codes were included based on known economic indicators as SDoH (Raphael, 2006), such as socioeconomic status and cost of living, and common themes which arose in published literature as determined through a scoping rapid literature review, such as housing supply. 'A posteriori' codes were added during the preliminary analysis of EISs; for example, the terminology used instead of dualisation in the EISs was 'two-speed economy' and this term was used when searching other documents.

There are three steps of the EIS coding framework. Firstly, the EISs were searched using the selected search terms that were informed by the literature review. Secondly, these terms were reviewed to assess the broader context of their inclusion and compared against best practice approaches to the technical inclusion of health in EIS specifically in relation to economic impacts to determine whether 'community health baseline profiles', 'causal pathways', 'health data and evidence', and 'health equity' were identified and discussed. Finally, after coding the documents, discourse analysis of EISs was guided by questions pertaining to language, pre-suppositions, and intent or purpose of documents (Fairclough, 2003).

3. Results

Documentary analysis of the EISs demonstrated the insufficient inclusion of economic indicators listed in the coding analysis framework, and the health outcomes related to the economic impacts are rarely and

insufficiently included (as shown in Table 1). The term 'insufficient' is used if economic indicators were identified but not discussed, or only mentioned in community consultation or stakeholder engagement. There were distinct differences across the cases, where the Mandalong Southern Extension EIS mentioned economic indicators the least and did not relate them as SDoH, and the Watermark EIS considered economic indicators the most, and as SDoH.

3.1. Mandalong Southern Extension EIS

The Mandalong Southern Extension EIS did not explicitly mention the economic indicators of cost of living, dualisation or two-speed economies, housing affordability, or the out-migration of residents. The EIS mentioned the economic indicator of population influx into the community as unlikely to occur, due to their expectations of employing local residents, as outlined in the Social Impact Assessment (SIA), although this claim is not substantiated. This economic indicator was not linked to health in any way. Other economic indicators were implicitly mentioned. For example, the Economic Impact Assessment alluded to cost of living in regard to higher disposable incomes of mining employees fuelling increased consumption activity in the regional economies. Also, employment diversity in the region was reported in the 'Population Characteristics' section in the SIA, however this was a scoping assessment and did not mention mining impacts on non-mining employment. Due to the lack of consideration of economic indicators as SDoH, no causal pathways linking mining projects to health was proposed, vulnerable groups were not considered and no health data were used.

3.2. Warkworth Continuation EIS

The Warkworth Continuation EIS mentioned housing affordability, and insufficiently mentioned cost of living, dualisation, and non-mining employment diversity. Housing affordability of surrounding suburbs and local government areas was the only economic indicator recognised as a determinant of health by linking it to housing stress. This was described using the Australian Bureau of Statistic's definition where a household spending more than 30% of income on mortgage or rent is in housing stress. This instance was considered as insufficiently using health data. This inclusion of housing affordability was regarded as insufficient because specific health outcomes were not linked to these measures. Further, dualisation was referred to as 'two-speed economy' alongside cost of living in the 'Stakeholder perceptions and study outcomes' section of the SIA and was included in the main report. Although an adequate definition is provided, this economic indicator was not further explored in relation to the mining project and relevant mitigation measures were not proposed. Further, this section also mentions local business stakeholders raising concerns for losing skilled non-mining employees to higher salaries offered in mining jobs. Also, population influxes increasing housing demand were not mentioned explicitly, however, the report included anecdotal evidence of reduced rental costs and availability when there was a slowing of the mining industry. Due to the nature of evidence and lack of further discussion, this instance was considered to not include the relevant economic indicator. Moreover, socioeconomic inequalities were only mentioned in the context of 'if the project did not proceed', and although vulnerable groups were identified, consideration of the impact of economic indicators on their health was not in sufficient detail.

3.3. Watermark EIS

The Watermark EIS considered all economic indicators; however, cost of living and dualisation – also referred to as two-speed economies – were only mentioned in stakeholder consultations as being a concern of the community, rather than actually being assessed in the SIA like the other economic indicators. Similar to Warkworth Continuation, health was only associated with housing affordability and housing stress. Vulnerable groups mentioned as being negatively affected by the mining project included those who were homeless, lower income groups, or lower socioeconomic families being forced to move out. This was considered insufficient, as associated health outcomes such as financial stress were not mentioned. Stress in the community was, however, mentioned in relation to inequity in social and economic opportunities, housing and cost of living among Aboriginal residents.

4. Discussion

This research investigated the inclusion of economic impacts as determinants of health in three mining EISs in NSW, Australia. Results show the explicit inclusion of economic impacts of mining projects on local communities as a SDoH was rare across the EIS case studies. When economic indicators were considered, there was a greater focus on population characteristics rather than the potential economic impacts of the mining projects on the affected communities. Causal association of economic determinants and health outcomes were insufficiently reported when compared to best practice and health data were not used to inform assessments, except for percentages of housing stress. Although differential distribution of health across vulnerable groups were occasionally mentioned, discussion was limited.

4.1. Quantitative methods used in EISs to measure economic indicators as SDoH

The limited coverage of economic indicators as SDoH in the EISs is incongruent with previous literature which found significant socioeconomic impacts of mining projects (Haslam McKenzie and Rowley, 2013; Colagiuri and Morrice, 2015). Despite the Warkworth Continuation and Watermark EISs mentioning a small number of economic indicators and at times relating them to health outcomes, they did not adequately discuss these impacts or consider findings from previous research. Notably, elevated levels of inequality are associated with resource-dependent communities where lower-income earners are greatly disadvantaged (Lawrie et al., 2011). This occurrence can be masked when using certain statistical data such as median household income levels. For instance, a previous quantitative analysis found high gross value of minerals production was associated with positive socioeconomic impacts on the community. However, the authors emphasise their method used aggregated region-wide data which misrepresented within-region impacts mentioned in other research articles (Colagiuri and Morrice, 2015). Therefore, the measures used in the EISs, such as region-wide median household income, could greatly skew the representation of economic impacts on the local communities, thereby downplaying economic impacts as SDoH. This indicates an opportunity to refine EIS requirements to better utilise measures of within-region socioeconomic inequality differences.

Another instance is the use of the housing stress measure in the Warkworth Continuation and Watermark EISs. The Warkworth Continuation EIS concluded housing stress was low across the regional area and attributed high mining-related wages to this occurrence, therefore highlighting a positive economic impact. Further, the Watermark EIS highlighted the town of Gunnedah as possessing the highest levels of housing stress compared to NSW, and rental stress being the highest in Tamworth. Both projects use the common definition of housing stress as a household paying more than 30% of income on housing costs. However, this definition of housing stress is misleading as it implies a certain proportion of households possess financial stress, even though this measure has been shown to be weakly associated with wellbeing indicators including health and financial stress (Rowley et al., 2011). Furthermore, it masks housing affordability issues faced by non-mining employees in the community as this measure is incapable of determining all households in stress and who are dealing with the same financial pressures. Further, people who have

moved to other regions in search of more affordable housing are not accounted for when using the housing stress measure, despite being an important factor to consider when assessing housing affordability. Nonetheless, previous research has recognised the current housing stress measure is appealing to policy-makers due to its simplicity, despite failing to accurately and reliably measure households facing financial stress (Rowley et al., 2011). Thus, policy-makers are poorly informed by the housing stress measure when producing housing policies to improve household wellbeing (Rowley and Ong, 2012); and providing accommodation for mining employees was proposed as mitigation strategies in the EISs. Rowley et al. (2011) have suggested an important indicator of long-lasting housing stress is the duration a household is in housing stress as well as considering the catalyst putting the household into housing stress, whether it was by choice or situational factors such as housing cost or income changes. This is an important consideration given the links between financial stress from poor housing affordability and mental health deterioration, particularly among individuals living in low-income households in the Australian context (Bentley et al., 2011), as well as other high-income countries such as the UK (Taylor et al., 2007). Therefore, refining the use of housing stress in EISs and including it as a requirement would enable better analysis of economic stability of residents, as a SDoH.

4.2. Omission of external research

Additionally, housing affordability and housing-related issues were given the greatest weighing across the EISs compared to the other economic impacts. However, it is interesting to note that the Hunter Research Foundation Centre, part of the University of Newcastle, has reported economic-related wellbeing results of the Hunter community through a cross-sectional analysis (Hunter Research Foundation, 2016). The latest report included measures of financial stress which indicated 26% of community members experienced a shortage of money to meet daily needs and one in five households reported they were worse off than a year ago because of the increased cost of living or job loss. These households also reported being physically or mentally unwell and reducing or stopping private health insurance. The consideration of economic indicators as SDoH in these EISs would have been bolstered by including this data, particularly because it is context-specific to the Hunter region. This indicates important data were missing from the EISs conducted, and future consideration of external wellbeing data should be included in the preparation of SIAs.

4.3. Limited attention and mitigation of resident's concerns

Furthermore, the economic indicators were typically mentioned in community consultations and stakeholder engagements, either in a separate report or part of the SIA. For example, the concept of two-speed economies was only raised during stakeholder engagement as part of the Warkworth Continuation SIA, alongside retention of skilled non-mining employees in local small businesses and structural diversification of the non-mining economy. However, the mitigation measures did not include solutions for potential two-speed economies, nor was this discussed further. This also occurred in the Watermark mining project which either did not address some of the issues raised or inadequately addressed issues raised from the stakeholder engagement sessions. For example, one resident mentioned, “food, housing, rent costs; everything goes up in price. Will make it worse for the residents who are already here” (Hansen Bailey for Shenua Watermark Coal Pty Ltd., 2013). However, cost of living was not discussed in any of the EIS reports or appendices; it was only outlined as a stakeholder concern in the SIA. This is despite cost of living being listed in the Secretary's Environmental Assessment Requirements (SEARs). This lack of consideration of the cost of living reflects those preparing the EIS have overlooked not only the concern, but also the literature indicating increased cost of living as a significant and commonplace issue in mining communities (Mactaggart et al., 2016; Mactaggart et al., 2017).

Other instances of issues raised by stakeholders and not addressed, nor assessed, are residents indicating “local shops have been shutting down” and they have been “losing tradesmen to the mine…locals will have to increase pay for services to cover the costs” (Hansen Bailey for Shenua Watermark Coal Pty Ltd., 2013). In the SIA, these issues appear to be implicitly addressed through pre-existing council measures in place to ensure diversification of local, small businesses, although this appears to be quite inadequate, especially regarding logistics, in addressing the community's concerns. Further, the stakeholder engagement report included residents wanting to see “details of socioeconomic offsets” included in the EIS. Socioeconomic off-sets were discussed in the main report to a limited extent, as it focused on positive economic impacts such as higher salaries of the mining workforce who would not have benefited otherwise. The Preliminary Risk Assessment section of the main report ranked social and economic project-related issues as having medium levels of risk, and after stakeholder engagement, ranked it as having low levels of risk. This was said to be altered due to key risks being analysed against the Shenhua Watermark Risk Assessment Matrix, further discussed in Revised Risk Assessment report. The matrix, however, appears significantly limited and it is unclear exactly which risks, risk consequences, and likelihood of risks were considered and how they were considered. These instances indicate some members of the community, who raised significant issues, also covered in the literature, were not heard. Greater attention to these details appears to be required in future EIS approval processes.

4.4. EIS preparation and framing

It is important to recognise the way EISs are prepared and results framed, to better understand how health could be more appropriately included in the future. A prime example is in the Executive Summary of the Warkworth Continuation EIS which suggests they ensured requirements in government policies were met using ‘objective evidence’, which was given preference over ‘subjective concerns’ raised by the community in the SIA (EMGA Mitchell McLennan Pty Ltd for Warkworth Mining Ltd., 2014). They state, “Therefore, while not wanting to minimise the subjective concerns of immediate neighbours, the impacts of the proposal need to be considered in this light.” This indicates that economic-related issues raised in community consultation and stakeholder engagement is not enough for economic indicators as SDoH to be considered. A potential improvement would be to modify EIA requirements to explicitly list a number of SDoH to be assessed, including positive and negative economic indicators such those included in the coding framework.

Further, the results of this documentary analysis demonstrated the variability of including economic indicators in the EISs. The Mandalong Southern Extension assessment considered them the least, and economic indicators as SDoH were not mentioned at all. This is despite the Director General Requirements (DGR) stating to include “Potential direct and indirect economic benefits of the project on local and regional communities and the State” and then listing “cost of living, including housing affordability” as a likely impact that will arise and may be included in the assessment, either positive or negative. Further research into EIA requirement adherence is needed to understand why these economic indicators were not mentioned. This also indicates the need for a broad checklist of SDoH to be sufficiently researched and evaluated in the EIA process. It would be appropriate to include SDGs as a normative list such as poverty, good health and wellbeing, gender equality, sustainable cities and communities, and reduced inequalities (United Nations, 2015). To determine whether this is plausible, further research could adopt the approach outlined in “Addressing social, economic and environmental determinants of health and the health divide in the context of sustainable human development” by United Nations Development Programme (UNDP), where a validated analysis tool and comprehensive list of social, economic, and environmental

determinants of health are identified (United Nations Development Programme, 2017).

Further, local community participation could be strengthened beyond current community consultation processes to empower those potentially affected by infrastructure projects through prioritising the positive or negative effects of projects on relevant SDoH. Further, this form of EIA co-production with residents would consider the 'subjective concerns' to greater extent than it is at present and ensure a holistic approach to including health in EIAs.

4.5. Limitations

This EIS documentary analysis has some limitations. Firstly, the economic indicators selected for the coding framework were based on previous research findings; however, there may be other economic indicators worthy of consideration that were not included in this analysis. This is partially because the evidence base linking economic impacts of mines to health is underdeveloped, and therefore compromises assessing the quality of economic coverage in EISs. Secondly, this documentary analysis narrowly focused on the economic impacts of mining developments on nearby residents, and did not consider other social and environmental impacts. Therefore, future research could investigate how economic indicators are weighed in the documents compared to other impacts. Lastly, analysis focused on EIS content alone, therefore this analysis did not account for how and why economic impacts of mining projects as SDoH are considered. This limited context did not allow for exploration into broader influences on the EIA process, including political and corporate influences.

5. Conclusions

This analysis demonstrates economic indicators as SDoH were minimally considered in the EISs, and therefore the EIA process was not adequately utilised to determine economic impacts of mining projects on the health and wellbeing of local communities. Since previous literature has found specific economic indicators in this context have contributed to poorer health outcomes such as financial stress (Hossain et al., 2013; Haslam McKenzie and Rowley, 2013; Colagiuri and Morrice, 2015; Rowley and Ong, 2012), the EISs have missed an opportunity to explore the true impacts of mining development on local communities. While it was not our focus here, the recurrent challenge of bringing wider determinants of health into the EIA process suggests that a Health Impact Assessment (HIA) frame be applied (Pfeiffer et al., 2017). In Australia and NSW however, HIA is not currently supported and a health risk assessment framework is preferred (Harris et al., 2018) and often conflated with an HIA (Harris and Spickett, 2011). At a global level it should be noted that HIA has been challenged for its relevance to what is largely private sector driven EIA practice (Krieger et al., 2010). Indeed the HIA approach may be most appropriate when recast in the same way as strategic environmental assessment to assess industry activity at a strategic, rather than project by project, level (Harris and Viliani, 2018). Therefore, we recommend from this research that the EIA requirements should be modified to enable sufficient inclusion of broader determinants of health using appropriate methods and data to determine within-region measures. The economic-focused content of EISs should be subject to rigorous peer-review process to fully inform government approvals for projects.

Declaration of interest

None.

Acknowledgements

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Appendix 1. Coding and Analysis Framework for investigating economic impacts as a SDoH in EISs

Step	Focus
Step 1: Qualitative (framing)	How specific impacts were framed – similarities and differences for specific issues Search words/phrases: • Economic, socioeconomic/socio-economic, economic impact • "Housing affordability", rent, "housing market", dwelling, "housing demand", "residential growth", "new residents", "rental prices" • "Cost of living", inflation • "social determinant of health", "quality of life" • "population influx", influx, "population growth" • Inequality/ies, disadvantage, equity/inequity, "two-speed economy" • "dual economy", "two-speed economy"
Step 2: Best practice approach to technical inclusion of health in EIS (incl. quality of information used)	1. Community health baseline/profile (incl. the existing distribution of morbidity, morbidity and health status of affected communities and vulnerable/sensitive sub-groups) 2. Causal pathways [Evidence-informed?] discussion of the potential associations and causal pathways from a 'project aspect' (project process or activity) leading to a possible change in one or more health determinants that are likely to cause a change in one or more health outcomes (e.g. communicable disease, non-communicable disease). 3. Health data and evidence Use of health impact research evidence, qualitative and quantitative, to identify causal pathways and the significance of a health impact 4. Health equity Discussion of the possible interactions between project aspects, health determinants, health outcomes and health equity. Discussion of the distribution of health impacts across vulnerable/sensitive groups e.g. lower socioeconomic groups, women, children

Step 3: Additional discourse analysis questions	1. Language – what was being represented and the clarity of assumptions, analysis, conclusion? a. How are key concepts considered? 2. Pre-suppositions – what policy and other assumptions drove the content of the EIS? a. What is the reason behind mentioning key concepts? 3. Intent/purpose – what was being committed to the EIS?

References

Albrecht, G., Sartore, G.-M., Connor, L., Higginbotham, N., Freeman, S., Kelly, B., et al., 2007. Solastalgia: the distress caused by environmental change. Australas. Psychiatry 15 (sup1), S95–S98.

Bentley, R., Baker, E., Mason, K., Subramanian, S., Kavanagh, A.M., 2011. Association between housing affordability and mental health: a longitudinal analysis of a nationally representative household survey in Australia. Am. J. Epidemiol. 174 (7), 753–760.

Colagiuri, R., Morrice, E., 2015. Do coal-related health harms constitute a resource curse? A case study from Australia's Hunter Valley. Ext. Ind. Soc. 2 (2), 252–263.

EMGA Mitchell McLennan Pty Ltd for Warkworth Mining Ltd., 2014. Warkworth Continuation 2014 Environmental Impact Statement.

Fairclough, N., 2003. Analysing Discourse: Textual Analysis for Social Research. Psychology Press.

Fehr, R., Viliani, F., Martuzzi, M., Nowacki, J., 2015. Health in Impact Assessments. Opportunities not to be Missed. WHO Europe, European Association of Public Health and IAIA.

Fisher, M., Baum, F., MacDougall, C., Newman, L., McDermott, D., 2015. A qualitative methodological framework to assess uptake of evidence on social determinants of health in health policy. Evid. Policy 11 (4), 491–507.

Glasson, J., Therivel, R., Chadwick, A., 2013. Introduction to Environmental Impact Assessment: Routledge.

GSS Environmental for Centennial Mandalong Pty Ltd, 2013. Mandalong Southern Extension Environmental Impact Statement.

Hansen Bailey for Shenua Watermark Coal Pty Ltd., 2013. Watermark Coal Project Environmental Impact Statement.

Harris, P., Spickett, J., 2011. Health impact assessment in Australia: a review and directions for progress. Environ. Impact Assess. Rev. 31 (4), 425–432.

Harris, P., Viliani, F., 2018. Strategic health assessment for large scale industry development activities: an introduction. Environ. Impact Assess. Rev. 68, 59–65.

Harris, P.J., Harris, E., Thompson, S., Harris-Roxas, B., Kemp, L., 2009. Human health and wellbeing in environmental impact assessment in new South Wales, Australia: auditing health impacts within environmental assessments of major projects. Environ. Impact Assess. Rev. 29 (5), 310–318.

Harris, P., Friel, S., Wilson, A., 2015. 'Including health in systems responsible for urban planning': a realist policy analysis research programme. BMJ Open 5 (7), e008822.

Harris, P., Riley, E., Sainsbury, P., Kent, J., Baum, F., 2018. Including health in environmental impact assessments of three mega transport projects in Sydney, Australia: a critical, institutional, analysis. Environ. Impact Assess. Rev. 68, 109–116.

Haslam McKenzie, F.M., Rowley, S., 2013. Housing market failure in a booming economy. Hous. Stud. 28 (3), 373–388.

Hossain, D., Gorman, D., Chapelle, B., Mann, W., Saal, R., Penton, G., 2013. Impact of the mining industry on the mental health of landholders and rural communities in southwest Queensland. Australas. Psychiatry 21 (1), 32–37.

Hunter Research Foundation, 2016. Wellbeing Watch 2016. Available from: http://www.hrf.com.au/uploads/publications/Hunter-Wellbeing-Watch-Sept2016-web.pdf.

Jay, S., Jones, C., Slinn, P., Wood, C., 2007. Environmental impact assessment: retrospect and prospect. Environ. Impact Assess. Rev. 27 (4), 287–300.

Kang, E., Lee, Y., Harris, P., Koh, K., Kim, K., 2011. Health impact assessment in Korea. Environ. Impact Assess. Rev. 31 (4), 438–440.

Kickbusch, I., Allen, L., Franz, C., 2016. The commercial determinants of health. Lancet Glob. Health 4 (12), e895–e896.

Krieger, G.R., Utzinger, J., Winkler, M.S., Divall, M.J., Phillips, S.D., Balge, M.Z., et al., 2010. Barbarians at the gate: storming the Gothenburg consensus. Lancet 375 (9732), 2129–2131.

Lantz, P.M., House, J.S., Mero, R.P., Williams, D.R., 2005. Stress, life events, and socioeconomic disparities in health: results from the Americans' Changing Lives Study. J. Health Soc. Behav. 46 (3), 274–288.

Lawrie, M., Tonts, M., Plummer, P., 2011. Boomtowns, resource dependence and socio-economic well-being. Aust. Geogr. 42 (2), 139–164.

Lockie, S., Franettovich, M., Petkova-Timmer, V., Rolfe, J., Ivanova, G., 2009. Coal mining and the resource community cycle: a longitudinal assessment of the social impacts of the Coppabella coal mine. Environ. Impact Assess. Rev. 29 (5), 330–339.

Lynch, J.W., Kaplan, G.A., Shema, S.J., 1997. Cumulative impact of sustained economic hardship on physical, cognitive, psychological, and social functioning. N. Engl. J. Med. 337 (26), 1889–1895.

Mactaggart, F., McDermott, L., Tynan, A., Gericke, C., 2016. Examining health and well-being outcomes associated with mining activity in rural communities of high-income countries: a systematic review. Aust. J. Rural Health 24 (4), 230–237.

Mactaggart, F., McDermott, L., Tynan, A., Gericke, C.A., 2017. Exploring the determinants of health and wellbeing in communities living in proximity to coal seam gas developments in regional Queensland. BMC Public Health 18 (1), 51.

Marmot, M., Friel, S., Bell, R., Houweling, T.A., Taylor, S., CoSDo, Health, 2008. Closing the gap in a generation: health equity through action on the social determinants of health. Lancet 372 (9650), 1661–1669.

Morgan, R.K., 2012. Environmental impact assessment: the state of the art. Impact Assess. Proj. Apprais. 30 (1), 5–14.

Noble, B.F., Bronson, J.E., 2005. Integrating human health into environmental impact assessment: case studies of Canada's northern mining resource sector. Arctic 395–405.

NSW Government Planning & Environment, 2017. Major Project Assessments. Available from: http://www.majorprojects.planning.nsw.gov.au.

Pfeiffer, M., Vanya, D., Davison, C., Lkhagvasuren, O., Johnston, L., Janes, C.R., 2017. Harnessing opportunities for good governance of health impacts of mining projects in Mongolia: results of a global partnership. Glob. Health 13 (1), 39.

Pham, T., Riley, E., Harris, P., 2018. Inclusion of health in environmental impact assessment of major transport infrastructure projects in Vietnam. Int. J. Health Policy Manag (Published on-line, May 2018).

Raphael, D., 2006. Social determinants of health: present status, unanswered questions, and future directions. Int. J. Health Serv. 36 (4), 651–677.

Riley, E., Harris, P., Kent, J., Sainsbury, P., Lane, A., Baum, F., 2017. Including health in environmental assessments of major transport infrastructure projects: a documentary analysis. Int. J. Health Policy Manag. 7 (2), 144–153.

Rowley, S., Ong, R., 2012. Housing Affordability, Housing Stress and Household Wellbeing in Australia. Australian Housing and Urban Research Institute: Western Australia Research Centre.

Rowley, S., Ong, R., McMurray, C., 2011. Do traditional measures of housing stress accurately reflect household financial wellbeing. In: Proceedings of 5th Australasian Housing Researchers Conference. The University of Auckland, New Zealand.

Schulz, A., Northridge, M.E., 2004. Social determinants of health: implications for environmental health promotion. Health Educ. Behav. 31 (4), 455–471.

Taylor, M.P., Pevalin, D.J., Todd, J., 2007. The psychological costs of unsustainable housing commitments. Psychol. Med. 37 (7), 1027–1036.

United Nations, 2015. Sustainable Development Goals. Available from: http://www.un.org/sustainabledevelopment/sustainable-development-goals/.

United Nations Development Programme, 2017. Addressing Social, Economic and Environmental Determinants of Health and the Health Divide in the Context of Sustainable Human Development.

World Health Organisation, 2014. Health in Environmental Impact Assessments in Low and Middle Income Country Contexts (Unpublished technical paper prepared for the WHO and supporting the WHO training workshop on health in EIA held in Mongolia from November). pp. 4–6.

Yin, R.K., 2009. Case Study Research: Design and Methods. SAGE.

Pew Research Center

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Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes

Nearly four-in-ten men ages 25 to 29 now live with older relatives

BY *D'Vera Cohn, Juliana Horowitz, Rachel Minkin, Richard Fry and Kiley Hurst*

FOR MEDIA OR OTHER INQUIRIES:

D'Vera Cohn, Senior Writer/Editor
Juliana Horowitz, Associate Director, Research
Tanya Arditi, Communications Manager

202.419.4372

www.pewresearch.org

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How we did this

Pew Research Center conducted this study to better understand the experiences of U.S. adults living in multigenerational households, as well as the overall number and share of Americans who live in this type of household. The analysis in this report is based on two separate data sources. The findings about the number and share of Americans in multigenerational households, featured in Chapter 1 of the report, are based on data from the Annual Social and Economic Supplement of the Census Bureau's Current Population Survey. The findings about the experiences of adults in multigenerational households, featured in Chapter 2 of the report, are based on 1,548 U.S. adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. The data was collected as a part of a larger survey of 9,676 U.S. adults conducted in October 2021. Everyone who took part is a member of Pew Research Center's American Trends Panel (ATP), an online survey panel that is recruited through national, random sampling of residential addresses. This way nearly all U.S. adults have a chance of selection. The survey is weighted to be representative of the U.S. adult population by gender, race, ethnicity, partisan affiliation, education and other categories. Read more about the ATP's methodology.

See here to read more about the questions used for this report and the report's methodology.

Terminology

In the analysis of the Annual Social and Economic Supplement of the Census Bureau's Current Population Survey, multigenerational households are those that include two or more adult generations (mainly ages 25 and older) or a "skipped generation," which consists of grandparents and their grandchildren younger than 25. See Defining multigenerational households for more detail.

In the analysis of Pew Research Center survey data, adults in multigenerational households include those ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older.

References to White, Black and Asian Americans include only those who are not Hispanic and identify as only one race. Asian Americans include Pacific Islanders. Hispanics are of any race.

"Middle income" is defined here as two-thirds to double the median annual family income for panelists on the American Trends Panel. "Lower income" falls below that range; "upper income" falls above it. See the methodology for more details.

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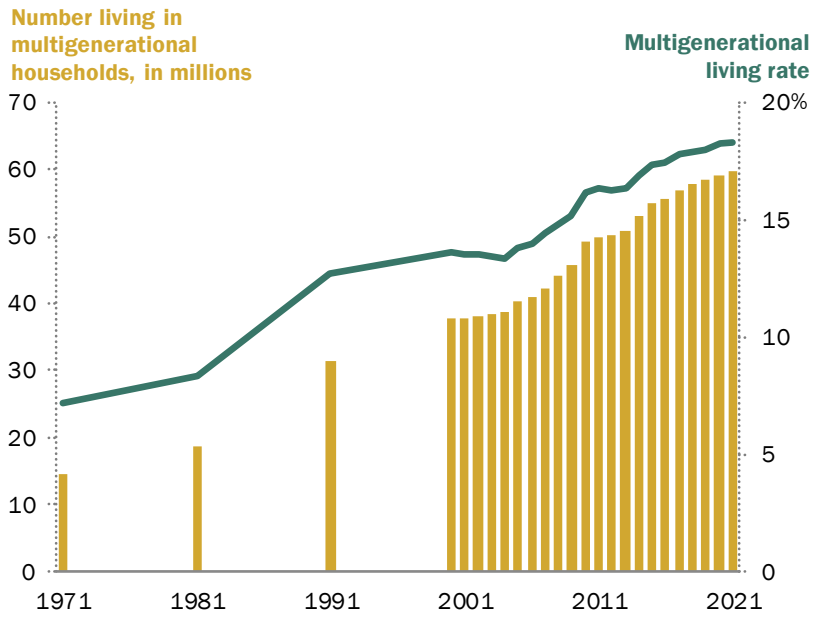
Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes

Nearly four-in-ten men ages 25 to 29 now live with older relatives

Multigenerational living has grown sharply in the U.S. over the past five decades and shows no sign of peaking. When asked why they share their home with relatives, Americans often give practical reasons related to finances or family caregiving. But the experience also has an emotional component. About a quarter of adults in multigenerational homes say it is stressful all or most of the time, and more than twice that share say it is mostly or always rewarding.

U.S. population in multigenerational households quadrupled since 1971

Number and % of people who live in multigenerational households in U.S.



Note: Multigenerational households include at least two generations of adults mainly 25 and older or grandparents and grandchildren younger than 25.
Source: Pew Research Center analysis of Current Population Survey Annual Social and Economic Supplement (ASEC) data files for 1971, 1981, 1991, and 2000-2021 (IPUMS).
"Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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These experiences with multigenerational living vary by demographic group, especially by age and income, according to a Pew Research Center survey conducted in October 2021. There also are generational differences, especially in terms of stress and money, between the views of adult children and parents who share a home.

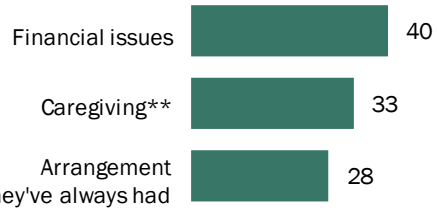
According to an analysis of census data from 1971-2021, the number of people living in multigenerational family households quadrupled during that time period, reaching 59.7 million in March 2021. The share more than doubled as well, to 18% of the U.S. population.

This increase in multigenerational living has been fed by social forces that include rapid growth of the U.S. Asian and Hispanic populations who, along with Black Americans, each are more likely than White Americans to live with extended family, especially if they are immigrants. By age, the highest share in this living arrangement is among young adults, a group that compared with prior generations when they were young generally stays in school longer, postpones or forgoes marriage and delays forming their own households. Among young adults ages 25 to 29, nearly a third (31%) live in multigenerational households, often in their parents' home. Nearly four-in-ten young men in this age group (37%) are in multigenerational households, as are 26% of similarly aged young women.

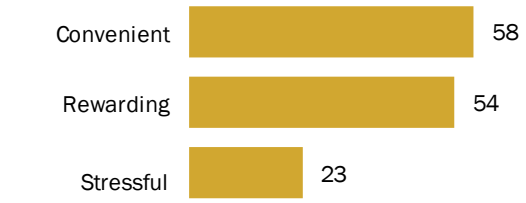
For many, multigenerational living has practical reasons and emotional results

Among adults in multigenerational households ...

*% saying each of the following is a major reason why they live with adult family members**



% saying they find living with adult family members to be ____ all or most of the time



* Only top three reasons shown.
** Includes those who say giving or receiving care for an adult or child family member is a major reason.
Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021. "Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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Living in a multigenerational household appears to confer a financial benefit by buffering residents against poverty, according to census data. Americans living in multigenerational households are less likely to be poor than those living in other types of households. This is especially true of some groups that are economically vulnerable, such as unemployed people.

Although majorities across income groups cite financial issues as a major or minor reason for residing in a multigenerational family household, lower-income adults are more likely to say the living arrangement helps them financially – 50% say it does at least a little, compared with 36% of middle-income adults and 24% of upper-income adults.

Parents living with adult children and adults living with parents are about equally likely to say finances are a major reason for their living arrangement. But among those living with parents, younger adults (ages 25 to 39) are much more likely than older ones (40 and older) to say this (57% to 31%). And while 53% of adult children who live with their parents say it helps them financially at least a little, a smaller share of parents living with an adult child (29%) say the same.

Parents are more likely than their adult children to say that living with extended family hurts their finances at least a little.

Defining multigenerational households

In exploring the demographics and experiences of Americans in multigenerational households, this report relies on two separate data sources and two definitions of who lives in this type of household.

In reporting the overall number and share of Americans who live in multigenerational households (and the demographic characteristics of these people), the analysis relies on data from the Annual Social and Economic Supplement of the Census Bureau's Current Population Survey (IPUMS). For this part of the analysis, which is featured in Chapter 1 of the report, multigenerational households are defined as including two or more adult generations or a "skipped generation," which consists of grandparents and their grandchildren younger than age 25. In this definition, adult children living in a parent's home must be 25 or older (18-to 24-year-olds living in their parents' home are not treated as an adult generation). However, 18-to 24-year-olds are treated as an adult generation if they are the householder and a parent or other relative from an older generation lives with them. This arrangement accounts for a relatively small share of multigenerational households. In other households as well, the householder could either be from the older or younger adult generation.

The analysis of census data includes all Americans – children and adults – living in multigenerational households, even if their presence doesn't make it a multigenerational household. For example, a 7-year-old living with her parents and a grandparent or an 18-year-old living with a 25-year-old sibling and their parents in the parents' home are each living in a multigenerational household. The trends and patterns here are similar to previous Pew Research Center reports based on the Census Bureau's American Community Survey, although the Current Population Survey numbers tend to be lower. See Methodology for more detail.

In Chapter 2, we examine the experiences of adults in multigenerational households based on findings from a Pew Research Center survey conducted in October 2021. In this part of the analysis, adults in multigenerational households are defined as those ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild who is 25 or older (regardless of whether the respondent is or is not the householder).

The nationally representative survey of 9,676 U.S. adults, including 1,548 who live in multigenerational households, was conducted Oct. 18-24, 2021, using the Center's American Trends Panel. The census figures are from the Annual Social and Economic Supplement of the Census Bureau's Current Population Survey, which reports data for the civilian population other than those living in institutions such as prisons or mental hospitals.[1]

Among the other key findings:

A third of U.S. adults in multigenerational households say caregiving is a major reason for their living arrangement, including 25% who cite adult caregiving and 12% who cite child care. Among the other reasons given for living in a multigenerational household, 28% say it's the arrangement they've always had, while smaller shares cite a change in relationship status (15%), or companionship (12%) as a major reason why they live with family members. About one-in-eight adults (13%) say the coronavirus pandemic is a factor in why they live with multiple generations under one roof.

A quarter of adults in multigenerational households say caregiving actually is occurring in their homes, either in the form of personal care for another adult in the household or care for a child younger than 18 who is not the caregiver's own child. Those with lower (30%) and middle (24%) incomes are more likely than those with upper incomes (15%) to say caregiving is occurring in their household. Among adults living with a parent age 65 and older, 23% say they personally provide care for another adult in the household at least sometimes, compared with 8% of those living with a parent younger than 65.

More adults living in multigenerational households say the experience has been very positive (30%) or somewhat positive (27%) than say it has been somewhat negative (14%) or very negative (3%). An additional 26% say it has been neither. About half or more of those living with adult relatives other than a spouse or partner say it is convenient (58%) or rewarding (54%) all or most of the time. About a quarter (23%) say it is stressful all or most of the time, 40% say it is stressful some of the time and 36% say it is rarely or never stressful.

[1] For more details about the survey and secondary data analysis, see the Methodology section of the report.

Among adults younger than 40, men are more likely than women to live in multigenerational households. Among those ages 40 and older, women are more likely to do so. For the most part, the reasons for living in a multigenerational household do not vary between men and women. Women are more likely than men to say a change in relationship status is a major reason. Among those living with a parent, men are more likely than women to say this is the arrangement they've always had.

Parents living with an adult child (60%) are more likely than adult children living with a parent (52%) to say their living situation is at least somewhat positive. Among adult children who live with parents, the younger group, ages 25 to 39 (43%), is less likely than those 40 and older (64%) to say the experience is at least somewhat positive. Adults living with parents (31%) are more likely than parents living with adult children (18%) to say their living situation is stressful all or most of the time. Similar shares of adults living with a parent and parents living with an adult child say living in a multigenerational household is convenient or rewarding all or most of the time.

Parents are more likely than adult children to pay the rent or mortgage when the two generations share a home. A majority of parents who live with an adult child (63%) say they pay more than half the rent or mortgage, including 51% who say they pay all. Meanwhile, 30% of adult children living with a parent say they pay nothing. Adult children are more likely to chip in for day-to-day costs; only 9% of those living with their parents say they pay nothing for groceries, utility bills or other household expenses. Still, 45% of parents living with adult children say they pay all such costs.

Upper-income adults are less likely than those with lower or middle incomes to cite caregiving as a reason for living in a multigenerational household. About a third of upper-income adults say that giving or getting adult care is a reason they live in a multigenerational household, compared with 45% of those with middle incomes and 51% of those with lower incomes who say so. Only 9% of upper-income adults identify giving or receiving child care as a reason for living with extended family, compared with 32% of lower-income adults and 20% of middle-income adults.

Upper-income adults in multigenerational households are more likely than those in other income groups to see the arrangement as temporary. Some 47% say they think they are in a temporary situation, compared with 35% of those with middle incomes and 31% of those with lower incomes. Overall, 41% of adults in multigenerational households say their living arrangement is a long-term one, 34% say it is temporary and 24% do not know. Upper-income adults also are more likely to find multigenerational living to be a positive experience – 71% say so,

compared with 59% of middle-income adults and 50% of lower-income adults in that situation. Lower-income adults are more likely to say there is not enough space in their home for everyone to live comfortably – 38% say so, compared with 21% of middle-income and just 9% of upper-income residents of multigenerational households.

Among most major racial groups and Hispanics, the share of people in poverty is lower in multigenerational households than in other types of households. Overall poverty is lower in multigenerational homes (10% of those who live in them are poor) compared with other types of households (12%), according to census data. The apparent benefit of living in a multigenerational household extends to people who are unemployed – 11% in multigenerational households were poor in 2020, compared with 19% of those in other living arrangements. Those with a disability that limits or prevents them from working also are less likely to be poor if they live in a multigenerational household (16%) than another type of household (27%).

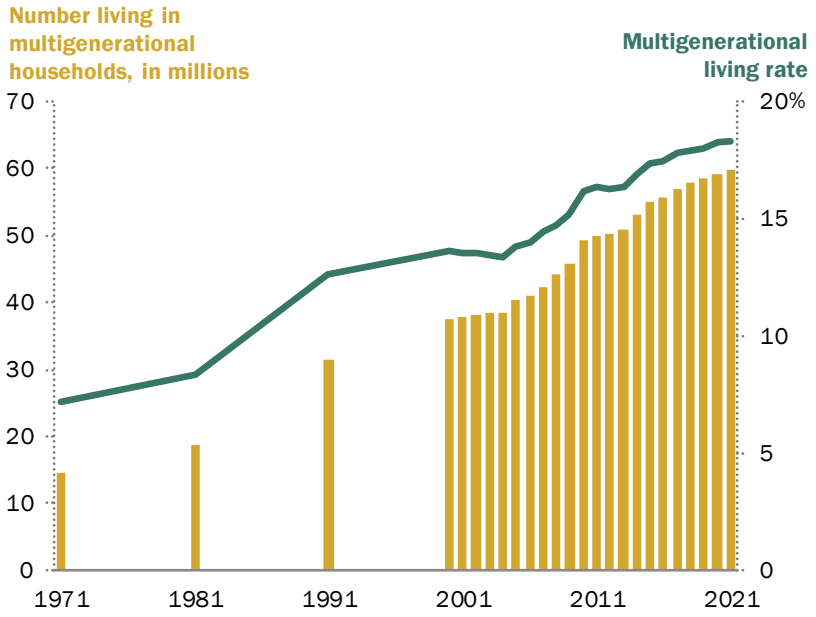
1. The demographics of multigenerational households

The number of Americans who live in multigenerational family households is about four times larger than it was in the 1970s, while the number in other types of homes grew by far less. The share of the U.S. population living in multigenerational homes more than doubled over the past five decades.

In March 2021, there were 59.7 million U.S. residents who lived with multiple generations under one roof, compared with 58.4 million in 2019, according to a Pew Research Center analysis of census data. The share of the U.S. population living in multigenerational households in 2021 was 18%.

U.S. population in multigenerational households quadrupled since 1971

Number and % of people who live in multigenerational households in U.S.



Note: Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25.
Source: Pew Research Center analysis of Current Population Survey Annual Social and Economic Supplement (ASEC) data files for 1971, 1981, 1991, and 2000-2021 (IPUMS).
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After declining in earlier decades, multigenerational living has grown steadily in the U.S. since the 1970s. From 1971 to 2021, the number of people living in multigenerational households quadrupled, while the number in other types of living situations is less than double what it was. The share of the U.S. population in multigenerational homes has more than doubled, from 7% in 1971 to 18% in 2021.

Multigenerational living is growing in part because groups that account for most recent overall population growth in the U.S., including foreign-born, Asian[2], Black and Hispanic Americans, are more likely to live with multiple generations under one roof. Thus, the rise in the multigenerational family household population is linked to the changing makeup of the overall

[2] Throughout this report, Asians include Pacific Islanders.

U.S. population. However, multigenerational living also is rising among non-Hispanic White Americans, who accounted for a higher share of the multigenerational household population growth from 2000 to 2021 (28%) than of total population growth (9%).

Multigenerational households are defined as including two or more adult generations (with adults mainly ages 25 or older) or a "skipped generation," which consists of grandparents and their grandchildren younger than 25. Most consist of at least two adult generations – for example, young adults living with their parents, parents residing in their adult children's homes, or a grandparent, adult child and adult grandchild under one roof. About 5% of multigenerational households consist of grandparents and grandchildren younger than 25.

The numbers for this analysis come from the Annual Social and Economic Supplement of the Census Bureau's Current Population Survey, which reports data for the civilian population except those living in institutions such as prisons or mental hospitals. The trends and patterns here are similar to previous Pew Research Center reports based on the Census Bureau's American Community Survey, although the Current Population Survey numbers tend to be lower. See Methodology for more detail.

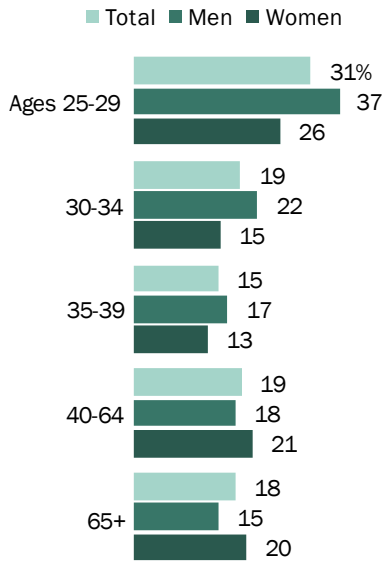
Who lives in multigenerational households?

The likelihood of living in a multigenerational household varies notably by age, race, and nativity, and there are differences by geographic location as well. Among the greatest variations is gender disparity among young adults, the age group most likely to live in multigenerational homes.

Men and women overall are equally likely to live in multigenerational households, but men are more likely to do so among those younger than 40 and women are more likely to do so among those ages 40 and older. For example, among the 25-to 29-year-old group, young men (37%) are notably more likely to be in a multigenerational living arrangement than young women (26%). Among a broader age group

Among young adults, men more likely than women to live in multigenerational homes

% of population in multigenerational households



Note: Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25.
Source: Pew Research Center analysis of 2021 Current Population Survey Annual Social and Economic Supplement (IPUMS).
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of young adults than in this report – 18- to 34-year-olds – living with parents has been the dominant living arrangement for young men for more than a decade.

But among the oldest Americans – ages 65 and up – 20% of women live in multigenerational households, compared with 15% of men. Older Americans are less likely to live alone than they were several decades ago, a change linked to the growing share of older women who live with their spouse or children.

By broad age group, Americans ages 25 to 39 and those ages 55 to 64 are about equally likely to live in multigenerational family households (each 22%). But within the younger group, those ages 25 to 29 (31%) are far more likely to live with multiple generations under one roof than those ages 30 to 34 (19%) or 35 to 39 (15%). Previous analysis has found that today's young adults are more likely to be living in their parents' home (and for longer stretches) than previous generations, and this is especially prevalent among those with a high school education compared with those with a bachelor's degree or more education.

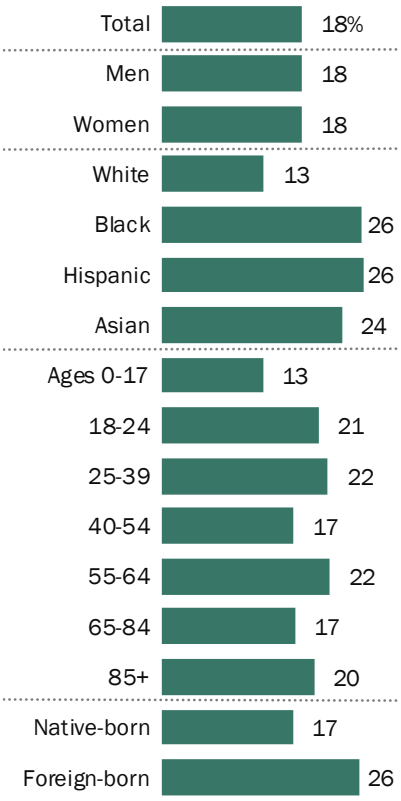
Among major racial and ethnic groups, Americans who are Asian, Black or Hispanic are more likely than those who are White to live in a multigenerational family household.

About a quarter of Asian (24%), Black (26%) and Hispanic (26%) Americans lived in multigenerational households in 2021, compared with 13% of those who are White.

Immigrant status also is linked to the likelihood of multigenerational living. A higher share of foreign-born Americans (26%) than U.S.-born Americans (17%) live in a multigenerational family home. The greater propensity of immigrants to live in multigenerational households is true even after factoring in the racial and ethnic makeup of foreign-born Americans, who are less likely than the U.S. born to be non-Hispanic White.

White Americans are the least likely to live in multigenerational households

% of population in multigenerational households



Note: Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25. White, Black and Asian Americans include those who report being only one race and are non-Hispanic. Asians include Pacific Islanders. Hispanics are of any race.
Source: Pew Research Center analysis of 2021 Current Population Survey Annual Social and Economic Supplement (IPUMS). "Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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Geography also factors into how likely people are to live in multigenerational homes. Americans living in Western states (21%) are more likely than those in the Midwest (14%), South (19%) or Northeast (19%) to reside with multiple generations under one roof. Those in the Midwest are less likely than those in other regions to be in multigenerational arrangements. Americans in metropolitan areas (19%) are somewhat more likely than those in rural communities (16%) to live in multigenerational family homes.

Drivers of growth in multigenerational households

Both the share and number of Americans living in multigenerational households have risen steadily since 1971, when this group numbered 14.5 million compared with 2021's 59.7 million. Growth accelerated during the Great Recession of 2007-2009 and has continued at a slower pace since then, but there is no sign that the multigenerational household population total has peaked.

The slackened growth of the multigenerational household population echoes broader sluggish trends. U.S. population growth from 2010-2020 was the smallest for any decade since the 1930s, and growth in the number of households was at the lowest pace in U.S. history. The number of new immigrants, already slowing in recent years, slumped during the pandemic.

Since 2000, the multigenerational household population has grown by 22.1 million people, but some groups played a larger role than others in driving that change. Americans younger than 40 accounted for almost half (49%) of the increase in the multigenerational household population but only 17% of overall population growth. In general, young adults are marrying later and staying in school longer than previous generations, which may contribute to their rising inclination to live with other family members under one roof.

Americans in multigenerational households less likely to live in poverty

Multigenerational households can have financial advantages. Pooling financial resources means that family helps out in hard times. Some of these households have more earners than non-multigenerational arrangements, providing a safety net if one person loses a job. However, multigenerational households are larger than other types, so any money brought in may need to cover more people.

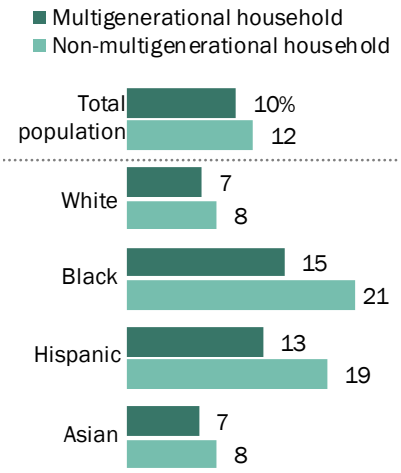
Living in a multigenerational household appears to offer protection against falling into poverty, according to census data. Poverty levels are lower for Americans living in multigenerational households (10%) than other types of households (12%). In 2021 data, the share of people in poverty during the previous year was lower in multigenerational households for White, Black and Hispanic Americans.

The sharpest difference was for adults ages 85 and older. Among this group, 8% in multigenerational households lived in poverty, compared with 13% of those in other types of homes. (The data source does not include elderly living in nursing homes.)

Groups that are more economically vulnerable had even more benefit from living in multigenerational households. For those who are Hispanic, 13% of those in multigenerational households lived in poverty, compared with 19% of those in other living situations. For Black Americans, the difference was 15% in multigenerational homes compared with 21% in other households. For those who are White, who as a group have higher median household incomes, the advantages were more modest.

Residents of multigenerational households are less likely to be poor than those in other living situations

% of population in poverty by household type in 2021



Note: Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25. White, Black and Asian Americans include those who report being only one race and are non-Hispanic. Asians include Pacific Islanders. Hispanics are of any race.
Source: Pew Research Center analysis of 2021 Current Population Survey Annual Social and Economic Supplement (IPUMS).
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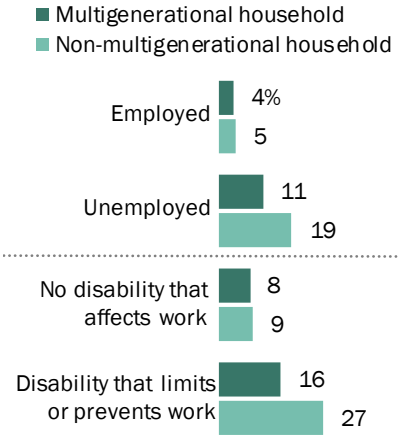
Among the unemployed, 11% of those living in multigenerational households were below the poverty line, compared with 19% of those in other living arrangements. Unemployed Americans were more likely than others to live in multigenerational households (28% did in 2021 vs. 18% of those who are employed).

Those with a disability that limits or prevents them from working, another group of Americans at risk of poverty, also appear to benefit from being in a multigenerational household. This group is more likely to live in a multigenerational home than people without a work disability (24% compared with 19%). Those with a work disability who live in a multigenerational household are less likely to be poor (16%) than their counterparts who live in another type of home (27%).

The current analysis did not include household income data, but a previous analysis found that median adjusted household income was slightly lower in multigenerational households than other types. However, the reverse was true for homes headed by Black, Hispanic, and foreign-born householders: Incomes were higher in multigenerational homes for those groups. Even multigenerational households with unemployed residents had higher adjusted median incomes than other types of households where unemployed residents lived.

Unemployed and disabled workers less likely to be poor if they live in multigenerational households

% of population in poverty by household type in 2021



Note: Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25. White, Black and Asian Americans include those who report being only one race and are non-Hispanic. Asians include Pacific Islanders. Hispanics are of any race.
Source: Pew Research Center analysis of 2021 Current Population Survey Annual Social and Economic Supplement (IPUMS). "Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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2. The experiences of adults in multigenerational households

There are a variety of reasons why adults live in multigenerational households, but financial considerations top the list.[3] Many also say that this is just the arrangement they've always had or that caring for an adult family member or receiving care is a reason for their living arrangement. Relatively few say the reasons they live in a multigenerational household are related to the COVID-19 pandemic.

While a majority of adults in multigenerational households say caregiving, either for an adult or a child, is a reason for their living arrangement, a quarter say caregiving is, in fact, occurring in their household. Those with lower and middle incomes are more likely than upper-income adults in these households to say this is the case.

For the most part, adults living in multigenerational households say this has been a positive experience, with at least half saying their arrangement is often convenient and rewarding. Still, about a quarter say living with other adult family members can be stressful all or most of the time, and this is particularly the case among adult children living with a parent.

The experiences of adults in multigenerational households often vary by income; and, among adult children living with a parent, by age. For example, those with lower incomes are more likely than those with middle and upper incomes to say there's not enough space to live comfortably. Younger adults (ages 25 to 39) who are living with a parent are much more likely than those ages 40 and older to see financial benefits in the arrangement and much less likely to say they contribute anything toward the mortgage or rent in their household.

[3] For the remainder of this report, "adults" refers to those ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older.

Four-in-ten adults in multigenerational households cite financial issues as a major reason for their living arrangement

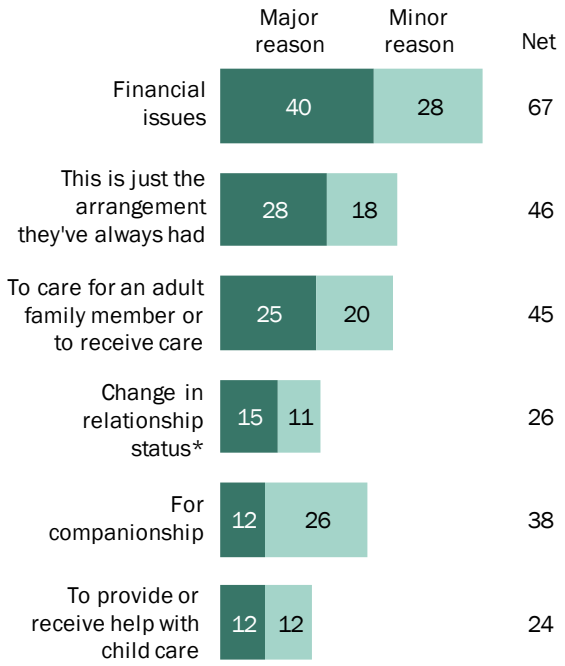
Four-in-ten adults in multigenerational households say financial issues are a major reason why they live with adult family members other than a spouse or partner; another 28% say this is a minor reason. Similar shares across racial, ethnic and income groups cite financial issues as a reason why they live in a multigenerational household.

About three-in-ten (28%) cite the fact that this is just the arrangement they've always had as a major reason for living in a multigenerational household, while a similar share (25%) say caring for an adult family member or receiving care themselves is a major reason. Smaller shares say each of the following is a major reason for their living arrangement: a change in their relationship status, such as the death of a partner or the end of a relationship (15%), for companionship (12%), or to provide or receive help with child care (12%).

The degree to which caregiving arrangements are tied to multigenerational living differs by income. Adults with lower and middle incomes are more likely than those with upper incomes to say caregiving is at least a minor reason why they live in a multigenerational household. About half of lower-income adults (51%) and 45% of those with middle incomes say caring for an adult family member or receiving care themselves is a reason, compared with 32% of those with upper incomes. And while 32% of those with lower incomes say providing or receiving help with child care is a reason why they live with other adult family members, 20% of those with middle incomes and an even smaller share of those with upper incomes (9%) say the same.

Financial issues top the list of reasons why people live in multigenerational households

Among adults in multigenerational households, % saying each of the following is a ____ reason why they live with adult family members



* Such as the death of a partner or end of a relationship.
Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Figures may not add to subtotals due to rounding.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021.
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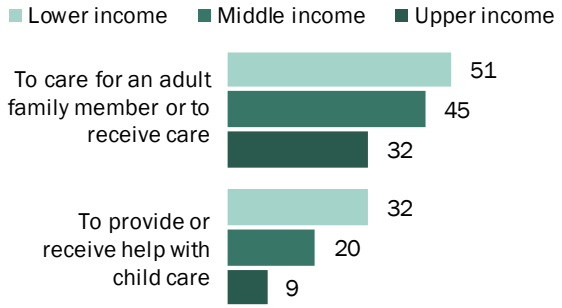
Among adults who are living with a parent, reasons for living in a multigenerational household vary considerably by age. Some 57% of younger adults (those ages 25 to 39) who live with a parent say financial issues are a major reason why; 31% of those ages 40 or older say the same. In turn, half of adults ages 40 and older who live with a parent say caring for an adult family member or receiving care is a major reason, compared with only 19% of those in the younger group. Adults ages 40 and older who are living with a parent (23%) are also more likely than those younger than 40 (11%) to say a change in relationship status, such as the death of a partner or the end of a relationship, is a major reason for their living arrangement.

Those with upper incomes are the least likely to say caregiving is a reason for their living arrangement

Among adults in multigenerational households, % saying each of the following is a major or minor reason why they live with adult family members, by income tier



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Family income tiers are based on adjusted 2020 earnings.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021.
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For the most part, men and women who live with a parent give similar reasons for why they live in a multigenerational household, but men are more likely than women to say this is the arrangement they've always had (36% of men vs. 25% of women who live with a parent cite this as a major reason), while women are more likely than men to say a change in relationship status is a major reason (22% vs. 11%).

About one-in-eight adults in multigenerational households cite the pandemic as a factor

Most adults in multigenerational households (86%) say none of the reasons why they live with adult family members other than a spouse or partner are related to the coronavirus outbreak, but 13% say the pandemic is a factor in their living arrangement. Among those with lower incomes, 16% say the coronavirus outbreak is a factor in why they live in a multigenerational household, compared with 9% of those with upper incomes; 12% of those with middle incomes say the same.

When it comes to adults who are living with a parent, 17% of those ages 25 to 39 say at least one of the reasons why they live in a multigenerational household is related to the pandemic; just 9% of those 40 and older say the same.

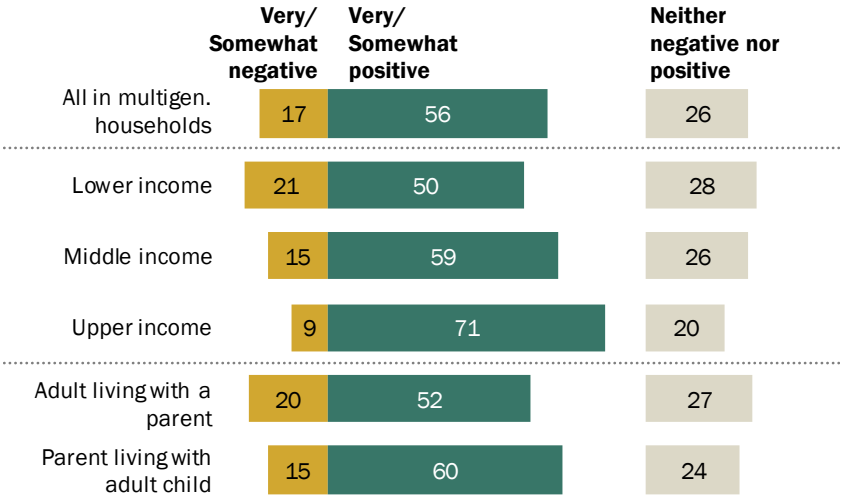
A majority of adults in multigenerational households say living with other adult family members has been a positive experience

Some 56% of adults in multigenerational households say living with adult family members (other than their spouse or partner) has been at least somewhat positive, with 30% saying it has been *very* positive; 17% say it has been negative, while 26% see it as neither positive nor negative.

Assessments are particularly positive among those with upper incomes. About seven-in-ten upper-income adults in multigenerational households (71%) say their living arrangement has been at least somewhat positive, compared with 59% of those with middle incomes and 50% of those with lower incomes. About one-in-five lower-income adults in these households (21%) say their experience has been at least somewhat negative; smaller shares of those with middle and upper incomes say the same (15% and 9%, respectively).

Adults with upper incomes are more likely than those with middle and lower incomes to say living in a multigenerational household has been positive

Among adults in multigenerational households, % saying living with adult family members has been mostly ...



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Share of respondents who didn't offer an answer not shown. Figures may not add to 100% due to rounding. Family income tiers are based on adjusted 2020 earnings.
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Parents who are living with an adult child (60%) are more likely than adults who are living with a parent (52%) to say their experience has been at least somewhat positive. Among adults living with a parent, younger adults (ages 25 to 39) are much less likely than those ages 40 and older to say living in a multigenerational household has been at least somewhat positive (43% vs. 64%, respectively).

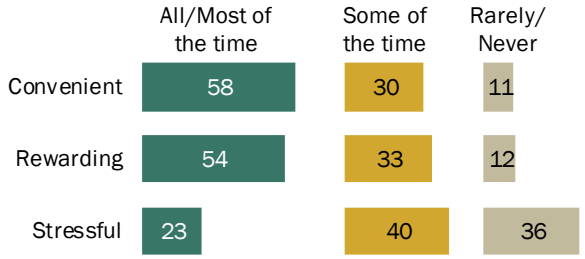
At least half find living in a multigenerational household convenient and rewarding, but some say it is stressful

About six-in-ten adults in multigenerational households (58%) say they find living with adult family members other than a spouse or partner to be convenient all or most of the time; 54% say it is rewarding. Still, roughly a quarter (23%) find living in a multigenerational household to be stressful all or most of the time.

Similar shares of parents living with an adult child and adults living with a parent say living in a multigenerational household is convenient or rewarding, but adult children are more likely than parents to say their living situation is stressful all or most of the time. About three-in-ten adult children living with a parent (31%) say this, compared with 18% of parents living with an adult child.

About six-in-ten say living in a multigenerational household is convenient all or most of the time

Among adults in multigenerational households, % saying they find living with adult family members to be convenient/rewarding/stressful ...



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Share of respondents who didn't offer an answer not shown.
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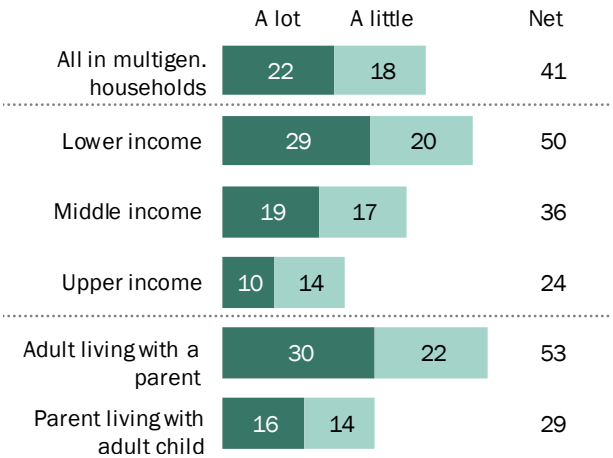
When it comes to the shares who find living in a multigenerational household to be convenient or rewarding, there are some differences by gender and age. Mothers who live with an adult child are more likely than fathers in this situation to say living in a multigenerational household is convenient (64% of mothers vs. 44% of fathers) and rewarding (60% vs. 47%) all or most of the time. While there are no similar gender differences among adults living with a parent, there are age differences in the shares saying their living situation is rewarding all or most of the time: 64% of those ages 40 and older say this, compared with 44% of those ages 25 to 39.

Half of lower-income adults in multigenerational households see financial benefits in their living arrangement

While financial issues are widely cited as a reason for living in a multigenerational household, adults with lower incomes are particularly likely to say this type of living arrangement is helpful to them financially. Half of lower-income adults in multigenerational households say living with adult family members other than a spouse or partner helps them financially at least a little, including 29% who say it helps a lot. Among those with middle incomes, 36% say living in a multigenerational household is helpful financially, while an even smaller share of those with upper incomes (24%) say the same. Overall, 22% of adults in multigenerational households say living with other adult family members helps their finances a lot and another 18% say it helps a little.

Three-in-ten adults living with a parent see living in a multigenerational household as very helpful financially

Among adults in multigenerational households, % saying living with adult family members helps their personal financial situation ...



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Figures may not add to subtotals due to rounding. Family income tiers are based on adjusted 2020 earnings.
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Adults living with a parent are far more likely than parents living with an adult child to say being in a multigenerational household helps them financially. Some 53% of adults who live with a parent say this helps their personal financial situation at least a little, with 30% saying it helps a lot. Younger adults living with a parent are more likely than those ages 40 and older to say their living arrangement helps a lot (37% vs. 23%).

Among parents living with an adult child, just 29% say their living arrangement helps their personal finances, including 16% who say it helps a lot. About three-in-ten parents who live with an adult child (28%) say their living arrangement *hurts* their personal finances at least a little, compared with 17% of adults who live with a parent that say the same.

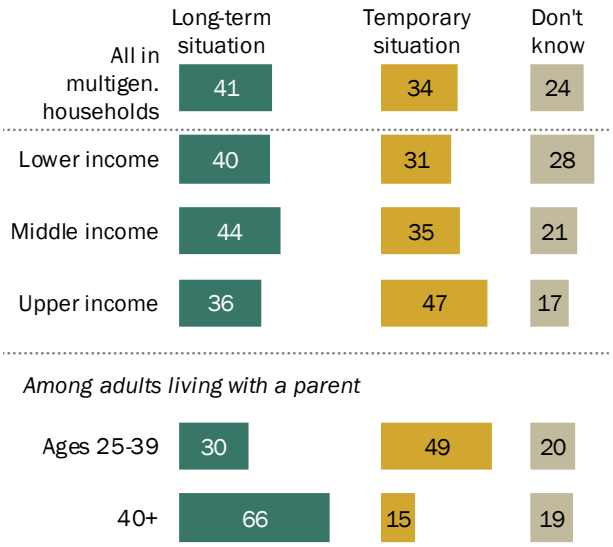
Upper-income adults in multigenerational households are more likely than those with lower incomes to see their living situation as temporary

A plurality of adults in multigenerational households (41%) say their living arrangement is a long-term situation; 34% see it as temporary, and 24% say they don't know. Upper-income adults in these types of households (47%) are more likely than those with middle (35%) and lower (31%) incomes to say this is temporary. Those with lower incomes express more uncertainty than those with middle or upper incomes: 28% of lower-income adults in multigenerational households say they don't know if their living situation is temporary or long-term, compared with 21% of those with middle incomes and 17% of those with upper incomes.

Among adults living with a parent, assessments vary widely by age. A majority of those ages 40 and older (66%) say living in a multigenerational household is a long-term situation, while just 15% say it's temporary and 19% say they don't know. By contrast, about half of 25- to 39-year-olds living with a parent (49%) say their living situation is temporary; 30% see it as long-term and 20% don't know. Overall, 47% of adult children living with a parent say their arrangement is long-term, compared with 38% of parents living with an adult child.

About half of adults younger than 40 living with a parent see their living situation as temporary

Among adults in multigenerational households, % saying living with adult family members is a ...



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Share of respondents who didn't offer an answer not shown. Family income tiers are based on adjusted 2020 earnings.
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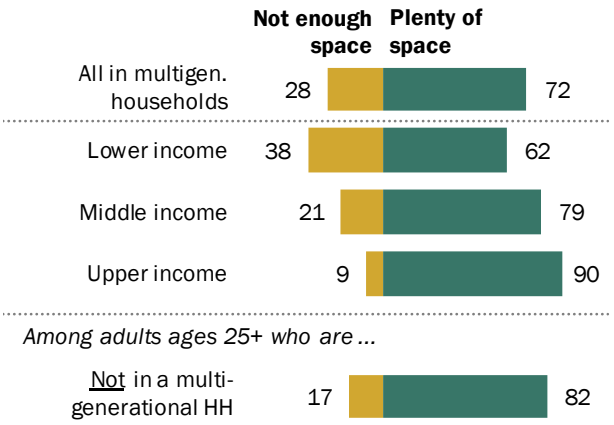
Most adults in multigenerational households say there is plenty of space in their home

About seven-in-ten adults who live with adult family members other than a spouse or partner (72%) say there is plenty of space to live comfortably in their home, but assessments vary considerably across income tiers. Nine-in-ten of those with upper incomes say there is plenty of space to live comfortably, compared with 79% of those with middle incomes and 62% of those with lower incomes.

The survey also asked this question of adults ages 25 and older who do not live in a multigenerational household. An even larger share among this group (82%) say there is plenty of space in their home to live comfortably, while 17% say this is not the case (28% of adults in multigenerational households say there isn't enough space to live comfortably).

About four-in-ten lower-income adults in multigenerational households say there isn't enough space to live comfortably

Among adults in multigenerational households, % saying there is ____ to live comfortably



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Share of respondents who didn't offer an answer not shown. Family income tiers are based on adjusted 2020 earnings.
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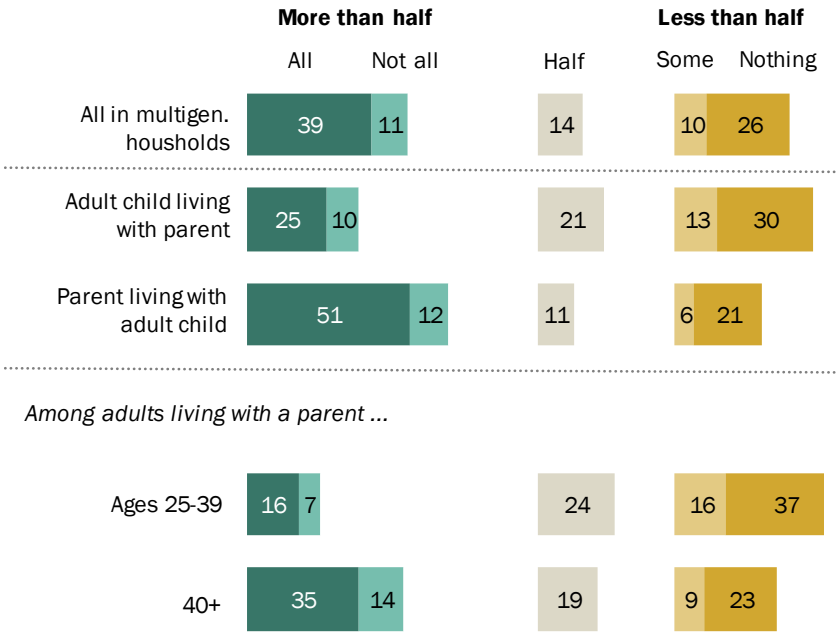
Contributing to expenses, chores and caregiving in multigenerational households varies by household arrangement, age

Half of adults in multigenerational households say they pay more than half of the rent or mortgage where they live, including 39% who say they pay for all of it.[4] In turn, 36% say they pay less than half of the rent or mortgage for their household, including 26% who say they don't pay any of it. Some 14% say they pay half.

A majority of parents living with an adult child say they pay more than half of the rent or mortgage, including 51% who say they pay all of it. About a quarter (26%) say they pay some but less than half or don't pay anything.[5] In contrast, only about a third of adult children living with a parent say they pay more than half of the rent or mortgage, with 25% saying they pay all of it. Some 43% say they pay some but less than half (13%) or don't pay anything (30%).

Three-in-ten adults living with a parent don't pay any of the rent or mortgage

Among adults in multigenerational households, % saying they pay ____ for the rent or mortgage



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Share of respondents who didn't offer an answer not shown. Those who are married or living with a partner were asked how much they and their spouse or partner contribute to the rent or mortgage.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021.
"Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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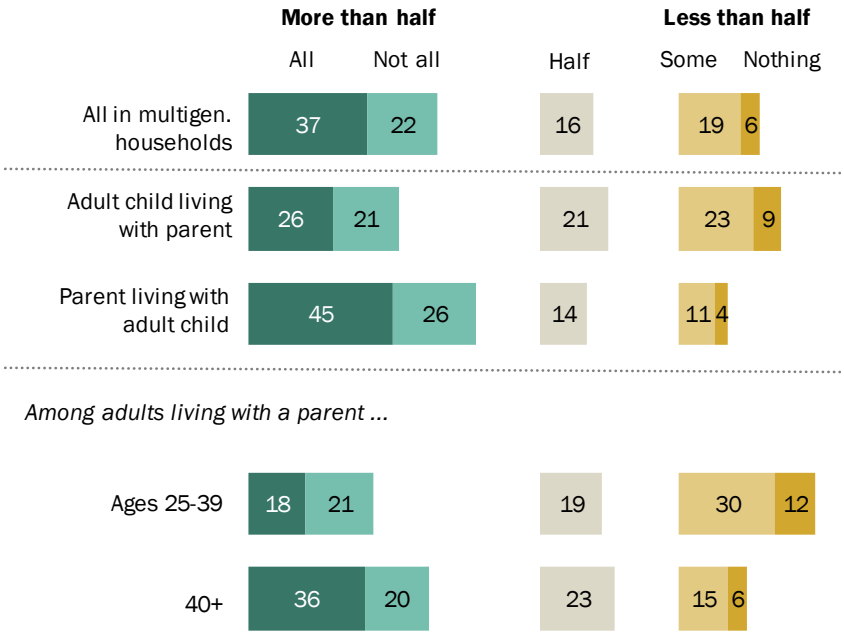
[4] Those who are married or living with a partner were asked how much they and their spouse or partner contribute to rent or mortgage.
[5] Some figures reported in the text may differ from the sum of individual percentages presented in the charts due to rounding.

The extent to which adults living with a parent contribute to the rent or mortgage varies considerably by age. Among those ages 25 to 39, 37% say they don't pay any of the rent or mortgage; about a quarter of those ages 40 and older (23%) say the same. In turn, about twice as many of those ages 40 and older say they pay all of the rent or mortgage compared with those ages 25 to 39 (35% vs. 16%).

There are also income differences in reported contributions to the rent or mortgage. Three-in-ten adults with lower incomes say they don't pay any of the rent or mortgage, compared with 23% of middle-income and 20% of upper-income adults. Upper-income adults (68%) are more likely to say they pay all of the rent or mortgage than those with middle (47%) or lower incomes (26%).

Contributing to household expenses varies by age for adults living with a parent

Among adults in multigenerational households, % saying they pay ____ for the household expenses such as groceries or utility bills



Note: Based on adults age 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Share of respondents who didn't offer an answer not shown. Those who are married or living with a partner were asked how much they and their spouse or partner contribute to household expenses such as groceries or utility bills.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021.
"Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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The survey also asked respondents about their contributions to household expenses such as groceries and utility bills. About six-in-ten adults in multigenerational households say they pay for more than half of the household expenses; this includes 37% who say they pay for all of these expenses. A quarter say they pay less than half, with 6% saying they don't pay anything. Another 16% say they pay half of these expenses.

Most parents living with their adult children say they pay more than half (26%) or all of the household expenses (45%). The responses from adult children living with a parent demonstrate

more of a range in contributions: 26% say they pay all of the household expenses, 21% say they pay more than half but not all, 21% say they pay half, and 23% say they pay for some but less than half of these expenses. About one-in-ten of these adults (9%) say they don't pay any of these expenses.

These contributions also vary by age: adults ages 40 and older living with a parent are more likely to say they pay all of the household expenses compared with those ages 25 to 39 (36% vs. 18%). Adults under 40 in these households are about twice as likely as those 40 and older to say they pay some but less than half or don't pay any of the household expenses (42% vs. 20%).

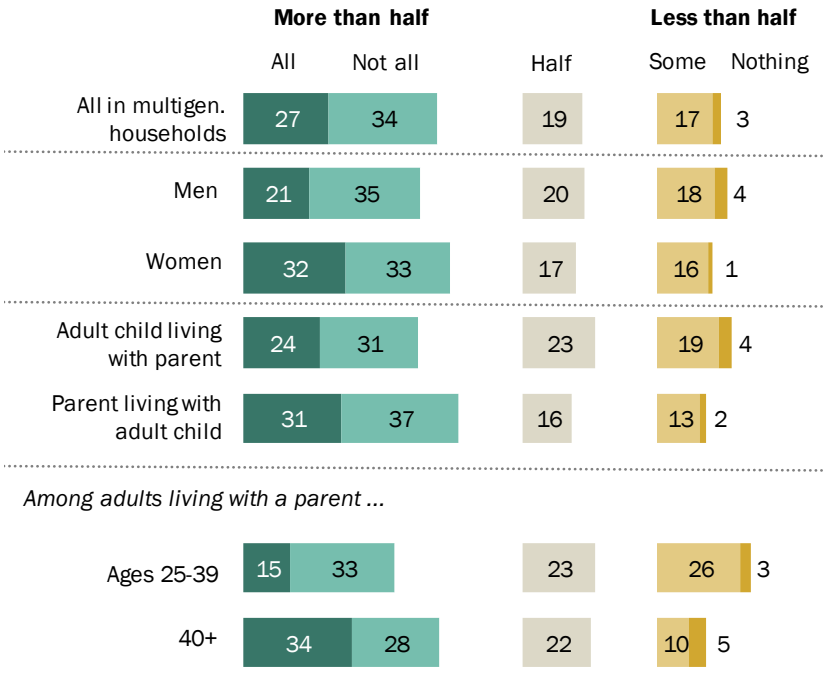
While similar shares of adults across income tiers say they don't pay any of the household expenses, those with upper incomes (59%) are more likely than those with middle (44%) and lower incomes (26%) to say they pay for all of them.

Women more likely than men in multigenerational households to say they cover more than half of the household chores and responsibilities

Many people contribute to their multigenerational households beyond paying for expenses, with 61% of adults in these households saying they do more than half of the household chores and other responsibilities, including 27% who say they do all of them. About one-in-five (19%) say they do half, and a similar share say they do less than half (17%) or don't do any (3%).

Women more likely than men to say they do all the chores in multigenerational households

Among adults in multigenerational households, % saying they do ____ when it comes to household chores and responsibilities



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Share of respondents who didn't offer an answer not shown. Those who are married or living with a partner were asked how much they and their spouse or partner do when it comes to household chores and responsibilities.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021.
"Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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A majority of parents living with an adult child say they do more than half of the chores, including 31% who say they do all of them. This compares with 54% of adults living with a parent who say they do more than half of the chores, with about a quarter saying they do all of them. About one-in-five of those living with a parent (22%) say they do less than half or none of the chores.

Again, these contributions vary by the age of the adult living with a parent. Those ages 40 and older (34%) are about twice as likely as their counterparts under age 40 (15%) to say they do all of the chores. And while about three-in-ten of those ages 25 to 39 (29%) say they do less than half or none of the chores, just 14% of those in the older group say the same about their contributions to household chores.

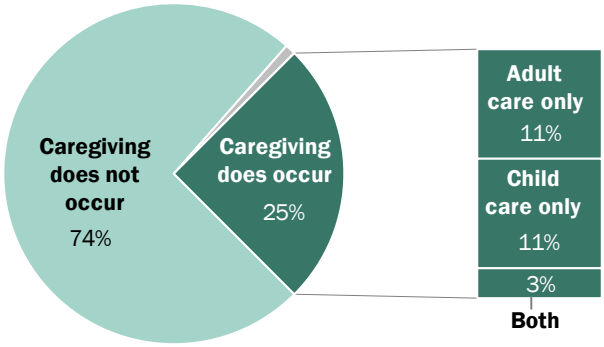
Women in multigenerational households are more likely than their male counterparts to say they do more than half or all of the household chores and responsibilities. Two-thirds of women (66%) say this, compared with 56% of men. Men ages 25 to 49 are the least likely to say they do more than half or all of the chores (44% vs. 59% of women in the same age group and about seven-in-ten men and women ages 50 and older, 68% and 69%, respectively).

A quarter of adults say caregiving occurs in their multigenerational household

About one-in-ten adults in multigenerational households (11%) say an adult provides personal care for another adult in the household who is not the caregiver's spouse or partner; the same share say an adult provides care for a child under age 18 in the household who is not their own.[6] Some 3% of adults in multigenerational households say care occurs for both an adult and child in their household.

Among the quarter of adults who say caregiving occurs, equal shares say it is for an adult or for a child

Among adults in multigenerational households, % saying any adult in their household does or does not provide care for another adult or child



Note: Based on adults ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older. Adult care indicates any adult in the household provides personal care to another adult who is not their spouse/partner, such as helping them bathe or get dressed. Child care indicates any adult provides care for a child under age 18 who is not their own. Share of respondents who didn't offer an answer shown but not labeled.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021. "Financial Issues Top the List of Reasons U.S. Adults Live in Multigenerational Homes"

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[6] The question defined examples of personal care including "helping them bathe or get dressed."

The share who say caregiving occurs in their household varies by income. Adults with lower (30%) and middle incomes (24%) are more likely than those with upper incomes (15%) to say caregiving occurs in their household. When asked if they personally provide care for a child younger than 18 who is not their own in the household, lower- and middle-income adults are more likely than upper-income adults to say they do this at least sometimes (16% and 11% vs. 3%); similar shares across income groups say they personally provide adult care at least sometimes.

Men and women in multigenerational households are about equally likely to say they personally provide child care for a child in the household who's not their own at least sometimes. Among men, 15% say they provide personal care for another adult in the household; 10% of women say they do this.

About one-in-five adults living with a parent (18%) say they personally provide care for another adult who is not their spouse or partner in the household at least sometimes. This compares with 11% of parents living with an adult child who say they personally provide care for another adult at least sometimes.

Adults living with a parent age 65 or older are especially likely to say they personally provide care for another adult in their household: about a quarter (23%) say they do this at least sometimes, compared with 8% of those living with a parent under 65.

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Juliana Horowitz, *Associate Director, Research*
D'Vera Cohn, *Senior Writer/Editor*
Rachel Minkin, *Research Associate*
Richard Fry, *Senior Economist*
Jeffrey S. Passel, *Senior Demographer*
Kiley Hurst, *Research Assistant*
Stella Sechopoulos, *Research Assistant*
Anna Brown, *Research Associate*
Tanya Arditi, *Communications Manager*
Gar Meng Leong, *Communications Associate*
Julia O'Hanlon, *Communications Associate*
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Methodology

The American Trends Panel survey methodology

Overview

The American Trends Panel (ATP), created by Pew Research Center, is a nationally representative panel of randomly selected U.S. adults. Panelists participate via self-administered web surveys. Panelists who do not have internet access at home are provided with a tablet and wireless internet connection. Interviews are conducted in both English and Spanish. The panel is being managed by Ipsos.

Data in this report is drawn from the panel wave conducted from Oct. 18 to Oct. 24, 2021. A total of 9,676 panelists responded out of 11,340 who were sampled, for a response rate of 85%. The cumulative response rate accounting for nonresponse to the recruitment surveys and attrition is 3%. The break-off rate among panelists who logged on to the survey and completed at least one item is 1%. The margin of sampling error for the full sample of 9,676 respondents is plus or minus 1.6 percentage points.

Panel recruitment

The ATP was created in 2014, with the first cohort of panelists invited to join the panel at the end of a large, national, landline and cellphone random-digit-dial survey that was conducted in both English and Spanish. Two additional recruitments were conducted using the same method in 2015 and 2017, respectively. Across these three surveys, a total of 19,718 adults were invited to join the ATP, of whom 9,942 (50%) agreed to participate.

American Trends Panel recruitment surveys

Recruitment dates	Mode	Invited	Joined	Active panelists remaining
Jan. 23 to March 16, 2014	Landline/ cell RDD	9,809	5,338	1,604
Aug. 27 to Oct. 4, 2015	Landline/ cell RDD	6,004	2,976	939
April 25 to June 4, 2017	Landline/ cell RDD	3,905	1,628	470
Aug. 8 to Oct. 31, 2018	ABS	9,396	8,778	4,433
Aug. 19 to Nov. 30, 2019	ABS	5,900	4,720	1,627
June 1 to July 19, 2020; Feb. 10 to March 31, 2021	ABS	3,197	2,812	1,699
May 29 to July 7, 2021	ABS	1,085	947	726
	Total	**39,296**	**27,199**	**11,498**

Note: Approximately once per year, panelists who have not participated in multiple consecutive waves or who did not complete an annual profiling survey are removed from the panel. Panelists also become inactive if they ask to be removed from the panel. The 2021 recruitment survey was ongoing at the time this survey was conducted. The counts reflect completed recruitment interviews up through July 7, 2021.

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In August 2018, the ATP switched from telephone to

address-based recruitment. Invitations were sent to a stratified, random sample of households selected from the U.S. Postal Service's Delivery Sequence File. Sampled households receive mailings asking a randomly selected adult to complete a survey online. A question at the end of the survey asks if the respondent is willing to join the ATP. Starting in 2020, another stage was added to the recruitment. Households that do not respond to the online survey are sent a paper version of the questionnaire, $5 and a postage-paid return envelope. A subset of the adults returning the paper version of the survey are invited to join the ATP. This subset of adults receive a follow-up mailing with a $10 pre-incentive and invitation to join the ATP.

Across the four address-based recruitments, a total of 19,578 adults were invited to join the ATP, of whom 17,257 agreed to join the panel and completed an initial profile survey. In each household, the adult with the next birthday was asked to go online to complete a survey, at the end of which they were invited to join the panel. Of the 27,199 individuals who have ever joined the ATP, 11,498 remained active panelists and continued to receive survey invitations at the time this survey was conducted.

The U.S. Postal Service's Delivery Sequence File has been estimated to cover as much as 98% of the population, although some studies suggest that the coverage could be in the low 90% range.[7] The American Trends Panel never uses breakout routers or chains that direct respondents to additional surveys.

Sample design

The overall target population for this survey was non-institutionalized persons ages 18 and older, living in the U.S., including Alaska and Hawaii.

This study featured a stratified random sample from the ATP. The sample was allocated according to the following strata, in order: tablet households, foreign-born Hispanics, U.S.-born Hispanics, not registered to vote, high school education or less, foreign-born Asian Americans, people ages 18 to 34, non-Hispanic Black Americans, people who use the internet weekly or less, nonvolunteers and all other categories not already falling into any of the above. Respondent weights are adjusted to account for differential probabilities of selection as described in the Weighting section below.

Questionnaire development and testing

The questionnaire was developed by Pew Research Center in consultation with Ipsos. The web program was rigorously tested on both PC and mobile devices by the Ipsos project management team and Pew Research Center researchers. The Ipsos project management team also populated

[7] AAPOR Task Force on Address-based Sampling. 2016. "AAPOR Report: Address-based Sampling."

test data that was analyzed in SPSS to ensure the logic and randomizations were working as intended before launching the survey.

Incentives

All respondents were offered a post-paid incentive for their participation. Respondents could choose to receive the post-paid incentive in the form of a check or a gift code to Amazon.com or could choose to decline the incentive. Incentive amounts ranged from $5 to $20 depending on whether the respondent belongs to a part of the population that is harder or easier to reach. Differential incentive amounts were designed to increase panel survey participation among groups that traditionally have low survey response propensities.

Data collection protocol

The data collection field period for this survey was Oct. 18 to Oct. 24, 2021. Postcard notifications were mailed to all ATP panelists with a known residential address on Oct. 18.

Invitations were sent out in two separate launches: Soft Launch and Full Launch. Sixty panelists were included in the soft launch, which began with an initial invitation sent on Oct. 18, 2021. The ATP panelists chosen for the initial soft launch were known responders who had completed previous ATP surveys within one day of receiving their invitation. All remaining English- and Spanish-speaking panelists were included in the full launch and were sent an invitation on Oct. 19.

All panelists with an email address received an email invitation and up to one email reminder if they did not respond to the survey. All ATP panelists that consented to SMS messages received an SMS invitation and up to one SMS reminder.

Invitation and reminder dates

	Soft Launch	Full Launch
Initial invitation	Oct. 18, 2021	Oct. 19, 2021
Reminder	Oct. 21, 2021	Oct. 21, 2021

Data quality checks

To ensure high-quality data, the Center's researchers performed data quality checks to identify any respondents showing clear patterns of satisficing. This includes checking for very high rates of leaving questions blank, as well as always selecting the first or last answer presented. As a result of

this checking, three ATP respondents were removed from the survey dataset prior to weighting and analysis.

Weighting

The ATP data is weighted in a multistep process that accounts for multiple stages of sampling and nonresponse that occur at different points in the survey process. First, each panelist begins with a base weight that reflects their probability of selection for their initial recruitment survey. The base weights for panelists recruited in different years are scaled to be proportionate to the effective sample size for all active panelists in their cohort and then calibrated to align with the population benchmarks in the accompanying table to correct for nonresponse to recruitment surveys and panel attrition. If only a subsample of panelists was invited to participate in the wave, this weight is adjusted to account for any differential probabilities of selection.

Weighting dimensions

Variable	Benchmark source
Age x Gender Education x Gender Education x Age Race/Ethnicity x Education Born inside vs. outside the U.S. among Hispanics and Asian Americans Years lived in the U.S.	2019 American Community Survey (ACS)
Census region x Metro/Non-metro	2020 CPS March Supplement
Volunteerism	2019 CPS Volunteering & Civic Life Supplement
Voter registration	2018 CPS Voting and Registration Supplement
Party affiliation Frequency of internet use Religious affiliation	2021 National Public Opinion Reference Survey (NPORS)

Note: Estimates from the ACS are based on non-institutionalized adults. Voter registration is calculated using procedures from Hur, Achen (2013) and rescaled to include the total U.S. adult population.

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Among the panelists who completed the survey, this weight is then calibrated again to align with the population benchmarks identified in the accompanying table and trimmed at the 1st and 99th percentiles to reduce the loss in precision stemming from variance in the weights. Sampling errors and tests of statistical significance take into account the effect of weighting.

Some of the population benchmarks used for weighting come from surveys conducted prior to the coronavirus outbreak that began in February 2020. However, the weighting variables for panelists recruited in 2021 were measured at the time they were recruited to the panel. Likewise, the profile variables for existing panelists were updated from panel surveys conducted in July or August 2021.

This does not pose a problem for most of the variables used in the weighting, which are quite stable at both the population and individual levels. However, volunteerism may have changed over the intervening period in ways that made their 2021 measurements incompatible with the available (pre-pandemic) benchmarks. To address this, volunteerism is weighted using the profile variables that were measured in 2020. For all other weighting dimensions, the more recent panelist measurements from 2021 are used.

For panelists recruited in 2021, plausible values were imputed using the 2020 volunteerism values from existing panelists with similar characteristics. This ensures that any patterns of change that were observed in the existing panelists were also reflected in the new recruits when the weighting was performed.

The following table shows the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey.

Group	Unweighted sample size	Plus or minus ...
Total sample	9,676	1.6 percentage points
Adults in multigenerational households[8]	1,548	3.9 percentage points

Sample sizes and sampling errors for other subgroups are available upon request. In addition to sampling error, one should bear in mind that question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

[8] Defined as those ages 25 and older who live with a parent or grandparent or who live with an adult child or grandchild age 25 or older.

Dispositions and response rates

Final dispositions	AAPOR code	Total
Completed interview	1.1	9,676
Logged onto survey; broke off	2.12	121
Logged onto survey; did not complete any items	2.1121	100
Never logged on (implicit refusal)	2.11	1,438
Survey completed after close of the field period	2.27	2
Completed interview but was removed for data quality		3
Screened out		0
Total panelists in the survey		**11,340**
Completed interviews	I	9,676
Partial interviews	P	0
Refusals	R	1,662
Non-contact	NC	2
Other	O	0
Unknown household	UH	0
Unknown other	UO	0
Not eligible	NE	0
Total		**11,340**
AAPOR RR1 = I / (I+P+R+NC+O+UH+UO)		85%

Cumulative response rate	Total
Weighted response rate to recruitment surveys	12%
% of recruitment survey respondents who agreed to join the panel, among those invited	69%
% of those agreeing to join who were active panelists at start of Wave 98	42%
Response rate to Wave 98 survey	85%
Cumulative response rate	**3%**

Adjusting income and defining income tiers

To create upper-, middle- and lower-income tiers, respondents' 2020 family incomes were adjusted for differences in purchasing power by geographic region and household size. "Middle-income" adults live in families with annual incomes that are two-thirds to double the median family income in the panel (after incomes have been adjusted for the local cost of living and household size). The middle-income range for the American Trends Panel is about $42,000 to $125,900 annually for an average family of three. Lower-income families have incomes less than roughly $42,000, and upper-income families have incomes greater than roughly $125,900 (all figures expressed in 2020 dollars).

Based on these adjustments, 44% of respondents in multigenerational households are lower income, 42% are middle income and 7% fall into the upper-income tier. An additional 6% either didn't offer a response to the income question or the household size question.

For more information about how the income tiers were determined, please see here.

Secondary data sources and methodology

The analysis of the population living in multigenerational households is derived from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS), which is conducted in March of every year. Administered jointly by the U.S. Census Bureau and the Bureau of Labor Statistics, the CPS is a monthly survey of approximately 70,000 households that typically interviews about 50,000 households. It is the source of the nation's official statistics on unemployment. The ASEC survey in March typically features an expanded sample of about 95,000 households with about 70,000 interviews. However, response rates have decreased since the onset of the pandemic (discussed below). The ASEC collected in 2021 had about 63,000 households.

Prior Pew Research Center estimates of the size and share of the population residing in multigenerational households were based on the American Community Survey (ACS) and decennial census. The COVID-19 pandemic disrupted data collection for the 2020 ACS. The Census Bureau released the 2020 data with experimental weights and does not recommend comparing these data with earlier ACS estimates or the decennial census. Given this, and that more recent estimates are available based on the ASEC, this report utilizes the ASEC.

Estimates of size and share of the population living in a multigenerational household are lower using the ASEC than the ACS. That partly reflects the different populations covered in the two surveys. The upward trend in multigenerational living is however quite similar regardless of the survey used.

The onset of the COVID-19 pandemic impacted the data collection for the 2020 ASEC. The response rate for the March 2020 survey was about 10 percentage points lower than in preceding months. Using administrative data, Census Bureau researchers have shown that nonresponding households were less similar to respondents than in earlier years. They also generated entropy balance weights to account for this nonrandom nonresponse. The estimates published in this analysis for 2020 use these weights. The Census Bureau also produced entropy balance weights for 2021 but the estimates shown in this report use the regular weight for that year.

In this analysis, a multigenerational family household includes two or more adult generations or grandparents and grandchildren younger than 25. In households with two or more adult generations, "adult generation" is defined as either a person age 25 and older, or the householder. Householders mainly are 25 and older, but there are a relatively small number of two adult generation households with an 18- to 24- year-old householder and a parent or other member of an older generation who lives with them.

The Census Bureau uses a narrower definition of multigenerational households than we do. The major difference is that the bureau says multigenerational households must include at least three generations, where we require only two adult generations. Based on the Census Bureau's definition, 3.8% of households were multigenerational in 2019. Using the definition employed in this analysis and the 2019 ASEC, 11.9% of households were multigenerational family households.

For more details about our methodology, see this explanation.

An Evaluation of the Potential Socio-Economic Impacts of The Proposed Stibnite Mine on Valley County, Idaho

Prepared for

The Idaho Headwaters Economic Study Group

by

Power Consulting Incorporated

920 Evans Avenue

Missoula, Montana 59801

Thomas Michael Power, Ph.D.

Donovan S. Power, M.S.

www.powereconconsulting.com

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About the Authors:

Thomas Michael Power is the Principal Economist in Power Consulting, Inc. and a Research Professor and Professor Emeritus in the Economics Department at the University of Montana where he has been a researcher, teacher, and administrator for over 40 years. He received his undergraduate degree in Physics from Lehigh University and his MA and PhD in Economics from Princeton University.

Donovan S. Power received his undergraduate degree in Geosciences at the University of Montana and his Master of Science in Geology from the University of Washington. He has been the Principal Scientist at Power Consulting, Inc. for the past fifteen years.

Executive Summary

Section I. The Existing Valley County Economy

In the last half century Valley County has tripled in population while jobs have nearly quadrupled. The Valley County economy outperformed the national economy across a broad range of indicators of local economic vitality: population, employment, and real personal income. In the last ten years or so, the combination of natural growth and net in-migration added about 2,500 new residents in Valley County, but 87 percent of that growth was due to net in-migration, i.e., people "voting with their feet". Many of the people that moved into Valley County, brought with them a significant amount of "non-labor" income. In 2020 the non-labor sources of personal income in Valley County totaled $355 million. In comparison, the labor Earnings came to $261 million. That is, the non-labor personal income was 36 percent **larger** than the total labor earnings.

The historically important goods production in Valley County, timber and mining, have declined in the last several decades as a source of jobs. That is not a unique trend found only in Valley County. Rather, it is a state and national economic change. Jobs in goods production (Non-Services-Related), a category that includes timber and mining, were largely stagnant over the thirty-year period 1970 to 2000 relative to the growth in jobs in services sectors. During that 30-year period, jobs in Services Related industries rose steadily, almost quadrupling (3.9-fold) over that 30-year period.

Section II: Analyzing How the Proposed Mine's Work Force and Supplies Will be Obtained and the Reason This May Limit the Positive Impacts on the Local Economy

In this section we discuss the projected economic impacts associated with the Stibnite Gold Project (SGP). While Power Consulting was able to assess a variety of the local socio-economic impacts of SGP on Valley County, as presented in this study, we find it troubling that issues of HWY 55 transportation, spill risk, local wage scale problems, housing availability/affordability, and general infrastructure concerns were not adequately examined in either the Draft Environmental Impact Statement (DEIS) or the Supplemental DEIS (SDEIS). Public officials, elected leaders, and concerned citizens should not be making decisions about the future of their communities without a full comprehensive impact analysis having been carried out to inform their decisions. Specifically, we find that the DEIS and the SDEIS socioeconomic sections presented a 'benefits only' analysis. We will spend much of this section and parts of the following sections describing and quantifying that shortcoming.

Knowing where a proposed mine will get its operating supplies and its workers will help to determine what the economic impacts of the mine will be on the local area. If the mine is in a relatively remote setting, as is the case with the proposed Stibnite mine, then it is quite likely that the positive local economic impacts of the mine will be muted on the local area. The reason for this is that there are fewer economic links between the mine and the local towns that might otherwise supply the mine with the things that it needs to operate. Valley County may be the source of a lot of wealth being created, and the physical location of the mine, but it will not retain much of the wealth that is created. If we look at the Construction phase of the proposed mine, for example, more than 91 percent of the spending will occur outside of the local area. If we look a little deeper, into the total spending that the local area is modeled to receive, we see that only

8 percent of it will be in the local area. Of that 8 percent, 64 percent of that spending will be on direct wages for the people that are modeled to live in the local area. Furthermore, we suspect most of the workers will not live in the local area, therefore, this relatively small percentage will shrink to a few percent since those "local" workers will no longer live in the local area and will no longer spend their direct wages in the local area.

A complicating factor in all of this is that even if the local area was able to provide the workers for the mine, the 100 in-migrants that are projected to work at the mine will have a hard time finding housing. That is because Valley County does not have a lot of idle houses that are available to rent and or purchase. The Stibnite Supplemental DEIS specifically notes that the local rental market is becoming less affordable and the data that we have collected from the American Community Survey indicates that there are not enough vacant houses for sale for all the "local miners" to purchase one. What this adds up to is a housing market that is more expensive than the national average, more expensive than nearby Boise, and a market that will become increasingly less affordable for the locals if the mine is built and operates.

When we look at the potential fiscal impacts of the proposed mine on the local area, much of the same pattern holds. For the operations phase of the proposed mine, there will be $300,000 annually paid in property taxes[1] which will go to Valley County during the Operations phase, but all the other taxes are paid to state and federal governments. The $300,000 must then cover the cost increases that the mine puts on Valley County which include schools, roads, infrastructure, and emergency medical services. If we use the DEIS's methodology, then this increase in property taxes will not even cover the full costs of the miner's children attending school, while leaving no tax revenues for the other increases in demand for public services that the miners may put on Valley County.

With a well-paid, predominantly young, male workforce, with weeks at a time off, there are some social problems that can accompany this type of mining. Places like the Bakken in North Dakota and Montana and remote mining locations in Canada and Australia have been a natural research area to study the impact of this type of transient workforce. Since the miners will live at the mine site for two weeks while they work and then have two weeks off at a time, a separate culture will be created by the mine. Because of its structure, its pay, and the diverse cultures of its workforce, that separate mining culture may not fit well with the existing residents of the towns and cities that are closest to that mine.

Section III: Amenity Values and Community Perception

People have chosen to move to Valley County because of its natural beauty and the outdoor recreational opportunities that surround them. Additionally, people have been moving in at rates higher than the national, state, or rural county average, and they have brought "non-labor" income with them. In the economic literature these attractive local characteristics are called "amenities" and treated as economic values that improve the well-being of residents -just as the purchase of a home in an attractive neighborhood would. Recognition of the existence of these environmental values at certain locations also warns us that if we are not careful about how we manage special attractive natural landscapes, we may degrade significant existing amenities of considerable value, potentially creating a "dis-amenity" that leaves many people worse off.

[1] Stibnite Gold Project DEIS. Pages 4.21-26.

In one important sense, the proposed Stibnite Gold Project represents a gamble that puts at risk a known and existing outdoor economy that is supporting economic vitality in Valley County. What is being offered in its stead is a speculative but threatening multiple open pit mining venture that, if it is commercially successful, will bring only a relatively small and short run "bump" in additional economic activity in Valley County. When a mine or other types of industrial facilities are proposed near where people live, the people that live in the area, as well as the people that know about the new facility and the area, may change the way that they think about that area. That is, a "stigma", or negative perception, about an area caused by the negative characteristics associated with the industrial facility such as degraded air and water quality, noise, congestion, general run-down characteristics of the neighborhoods, falling property values, etc.

The stigma can be the result of many different local industrial degradations, but for the purpose of this report, we will consider spills from truck traffic delivering supplies to the mine and spills from Tailings Storage Facilities (TSF). There will be a dramatic increase in truck traffic as thousands of loads of materials are hauled from around the U.S. to the proposed mine site which will dramatically alter traffic patterns in the local area and all but assure that there will be spills. TSF are the permanent storage features at a mine that will hold back the toxic sediments that are left over from processing the ore to obtain the minerals. In the modern age of mining, and especially when dealing with open pit mines, there is an incredible volume of rock that is moved to recover a very small percentage of the mass moved as metal (in this case gold, antimony, and silver). The amount that is recovered, measured in grams per ton of rock moved, is between 1 and 2 in this case.[2] TSF design, in recent years, has not kept up with advances in mining technology and the statistics on failure show that the newer TSF are failing at a higher rate than the older ones.

The problem with having the proposed mine in Valley County is that so much of Valley County's economy is based on the high-quality natural landscapes that are in it and all around it. When we compare Valley County's economic vitality to that of the other Idaho non-metropolitan counties, we see that Valley County has significantly outperformed them. That is, people in Valley County received more income than their Idaho peers in other non-metropolitan counties. The average "bonus" to Valley County residents compared to the group of non-metropolitan counties was $7,400 a year per person in 2020 dollars. However, a Stibnite mine- related spill that casts a shadow of stigma over Valley County, could easily erase all potential benefits that the proposed mine could bring to Valley County during the mine operation phase. For example, a spill that caused a 2 percent decline in the Visitor-Recreation and Non-Labor Income in Valley County, could erase nearly all of the benefits of having 200 highly paid miners living in Valley County.

Section IV: Socio-Economic Volatility in Mining Communities

[2] Midas Gold. Midas Gold Completes Positive Feasibility Study for the Stibnite Gold Project, Idaho. 12.22.2022. https://midasgoldcorp.com/investors/news/2020/midas-gold-completes-positive-feasibility-study-for-the-stibnite-gold-project-idaho/

Metal mining is notoriously volatile, and gold is a charter member of the club of volatility. In fact, the price of gold has fluctuated by almost a factor of 10 in the last 50 plus years. However, regardless of gold price fluctuations, Valley County and the City of McCall will still have to make decisions about infrastructure. Things like schools, sewers, hospitals, roads, the size of the police and fire departments etc., will still require additional investments, because of the increased use by the miners.

We agree that the jobs that the miners will get will pay them well above average wages, but there will also be costs associated with having a mine in Valley County, and those costs have not been explored. Mines are generally located near small towns in rural portions of the U.S. that will have a harder time dealing with some of the negative impacts that come with the mine. As Perpetua has correctly shown, people who reside in Valley County *and* have mining jobs will have significantly higher than average pay when compared to other Valley County residents. That is known. What is unknown is what some of the costs associated with having the Stibnite mine in Valley County will be. The economic and social science literature tells us that there will be costs in the form of retarded economic growth, increased pressure on public services that Valley County provides, reduced educational attainment, and increased negative social interactions as a transient workforce tries to integrate into the local community. What this report also will show is that Valley County's economy is currently thriving and the reason that the economy is so robust, in large part, is because of the natural amenities that Valley County has. The possibility of short-term gain associated with the proposed mine should be carefully weighed against the potential for long term harm to an otherwise thriving economy

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Section I. The Existing Valley County Economy

1.1 The Relative Importance of Different Industries in the Valley County, Idaho, Economy: 2020 Jobs

Table 1 below, shows the distribution of the 7,100 jobs in Valley County as of 2020 among the various industries found in the Valley County economy.[3]

Although Valley County is a rural county in which 87 percent of the total land is forest land, less than one percent of the county's jobs, wage income, and economic output flow directly from the harvest and processing of the forest products from those forest lands. That is, only 36 jobs of the 7,122 total jobs in Valley County are in forest products.[4] Gold mining is now being widely discussed in Valley County because of Perpetua's proposal to re-start mining in the Stibnite Mining District, not because mining is a major sector of the *current* Valley County economy. Only about 100 of the 7,122 total jobs in Valley County in 2020 were in mining. See Figure 1 and the discussion below.

Other land-based economic activities in Valley County were also the sources of only a relatively small number of jobs in 2020, including farming, ranching, and fishing. The largest industries in Valley County in terms of the number of jobs reflect the relative importance of the visitor and the recreation economy. Consider, for instance, the 1,053 jobs associated with "Accommodation and food services" and the 1,439 jobs associated with Construction and Real Estate.

Table 1.

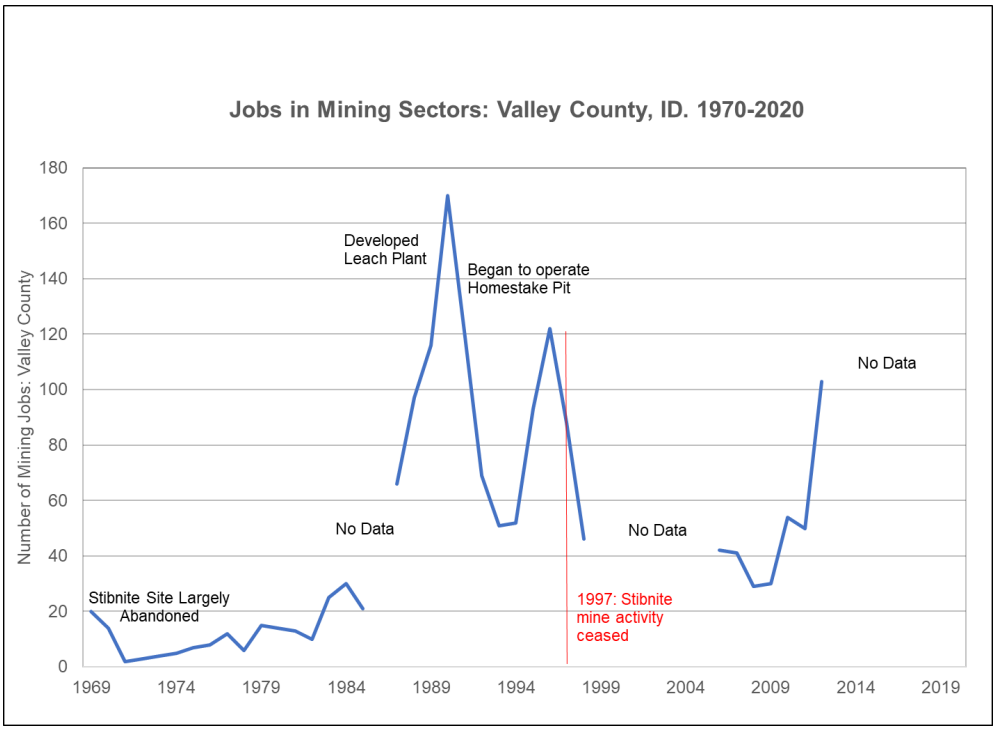
[3] The data in Table 1 comes from the U.S. Bureau of Economic Analysis (BEA). For the years 2001 to 2020, the BEA did not disclose the employment levels for some industries in Valley County in order to protect the privacy of the firms in some industrial classifications by avoiding the disclosure of economic information on *individual* firms. For the mining sectors, for instance, Valley County employment was not reported for half of the years. Headwaters Economics provides estimates of the missing data that were used in Table 1. This likely reduces the accuracy of the numbers reported in Table 1. However, replacing those estimated values with zeros would probably introduce a much larger error. The estimate of 2020 mining employment in Table 1 above is 103 mining jobs. That was the highest disclosed estimate BEA provided for the 2001-2020 period. It appears, however, that Valley County mining employment was declining from that peak year.

[4] Idaho's Forests and Forest Products Industry, University of Idaho, Policy Analysis Group, August 2019. Of course, the forested lands are a central part of the natural landscape that draws new residents and helps hold residents in Valley County. We will discuss the visitor, recreation, second home, and quality of life aspects of the local economy further below.

Number of Jobs by Place of Work Valley County, ID, Total Employment 2020	
Accommodation and food services	1,053
Government and government enterprises	1,017
Retail trade	889
Construction	766
Real estate	673
Health care and social assistance	543
Other services (except government)	353
Administrative and support and waste management	312
Professional, scientific, and technical services	272
Finance and insurance	209
Arts, entertainment, and recreation	186
Manufacturing	127
Educational services	110
Transportation & Wharehousintg	110
Mining, quarrying, and oil and gas extraction	103
Forestry and fishing	127
Farm employment	120
Wholesale trade	93
Information	46
Other	13
Total Employment: Valley County 2020	7,122

Source: U.S. BEA. CAEMP25N Total Full-Time and Part-Time Employment, by NAICS Industry. 2020

Figure 1.



Source: U.S. BEA, CAEMP 25N Total Full-Time and Part-Time Employment by NAICS Industry Economic Profile, Employment (number of jobs).: Valley, ID. 2020.

Figure 1 shows the U.S. BEA data for "mining" employment in Valley County for the 50-year period 1970-2020. Figure 1 is a bit of a mess and it is worth a little bit of time trying to understand why it is a mess and why the data does not synchronize with Table 1 above. To begin, there are several important points about the relative importance of "mining" in Valley County during that half century. As discussed above, some information on mining is withheld ("not disclosed") because it would reveal information on individual companies, violating privacy restrictions on federal data collection and publication. For this 50-year period, about 25 percent of estimated job data for the mining sector was undisclosed in the federal data. On Figure 1, "no data" marks the time periods for which we do not have mining employment data for Valley County. The employment directly associated with the Stibnite mining and processing operation was quite modest over the last half-century, peaking at 170 jobs in 1990 followed by a steep decline to about 50 jobs in 1993. For reference, in 2020 total employment in Valley County was about 7,100 jobs. During this 50 year period shown in figure 1, mining activity in Valley County was quite volatile, varying from almost 200 to near zero. As mining and mineral recovery technologies changed and global markets fluctuated between steep war-time demands and the disappearance of demand during periods of economic depression, the jobs associated with the Stibnite mineral belt came and went as the mines were periodically largely abandoned with crucial capital equipment not maintained or sold off.[5]

1.2 Trends in Indicators of Economic Vitality in Valley County

i. Population Trends in Valley County

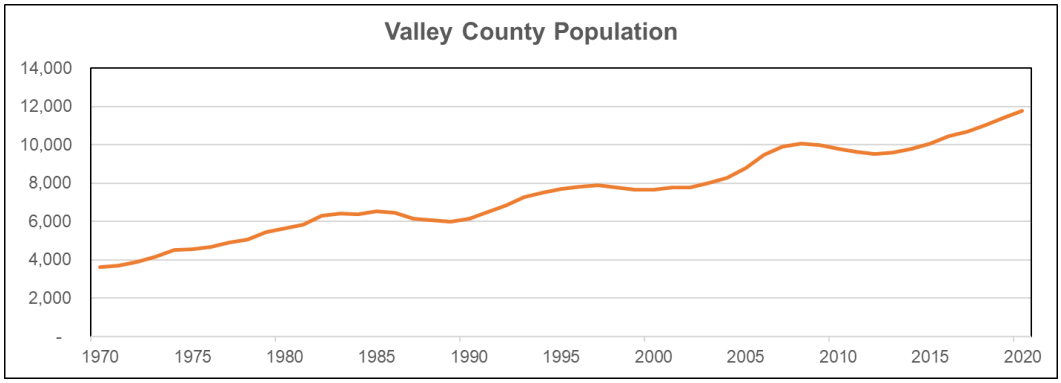
Population trends can be looked on as evidence that people "voting with their feet" are confirming that there are positive characteristics associated with a local area that allow it to attract and hold residents. A larger population could also increase the size of the market for goods and services, boosting the sales opportunities that local businesses face. The larger population could also increase the size and diversity of the labor force available to staff existing or new businesses. The demand for housing and new businesses could also increase the value of existing land and structures in the area.

Rising population can also be looked on as a threat to the quality of life in the community facing the increased population. Lager populations increase the demand for local government services such as schools, policing, fire, safety, and basic public infrastructure such as streets and sidewalks, etc. Higher property values tend to raise the local cost of living, burdening some residents while benefiting others. The character of the community that existed before the population increase took place could change, degrading the previous quality of life.

For better or worse, Valley County has experienced ongoing population growth over the last half-century or more. Between 1970 and 2021 the Valley County Population tripled. That represents a rate of growth of about 2 percent per year over that half century. As Figure 2 shows, there were fluctuations in population growth over that 50-year period as the national economy moved into recessions and then into recovery and back into periods of growth.

[5] Mitchell, V. History of the Stibnite Mining Area, Valley County, Idaho. Staff Report 00-3. Idaho Geological Survey, University of Idaho. April 2000
https://www.idahogeology.org/pub/Staff_Reports/2000/SR-00-3V1.pdf .

Figure 2.



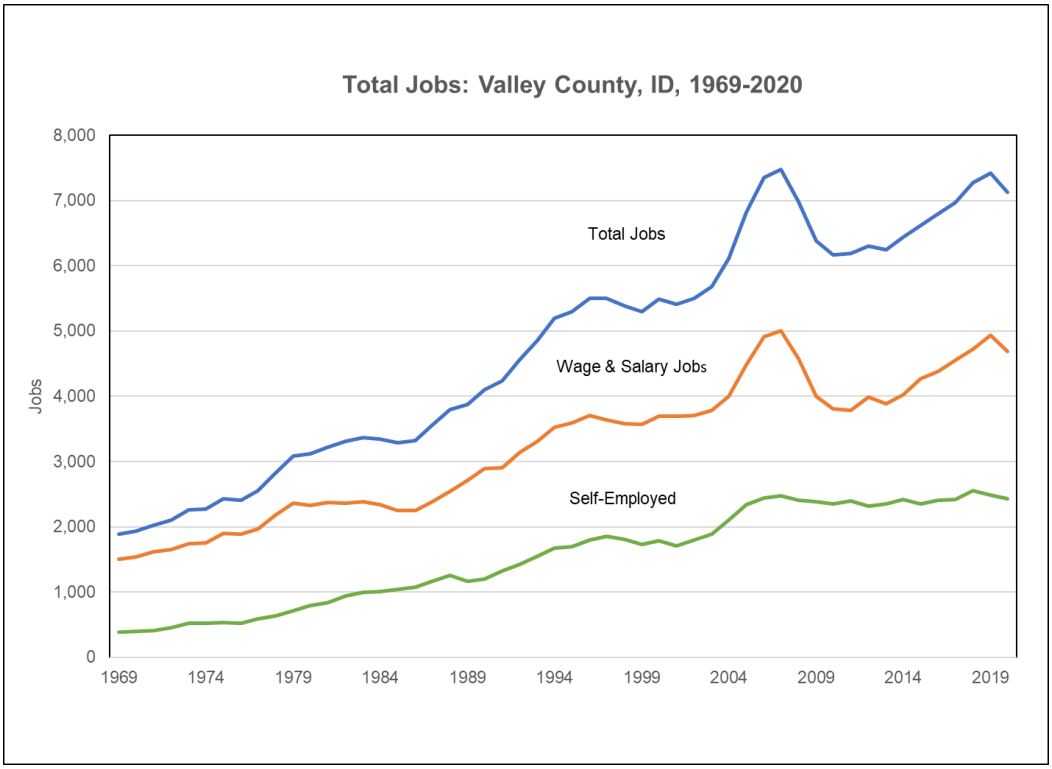
Source: U.S. BEA, Regional Economic Information System.

ii. Growth in Jobs in Valley County

Over the half-century between 1970 and 2020, total jobs in Valley County nearly quadrupled. As shown in Figure 3, below, the growth in jobs was not smooth. Slowdowns in the national economy periodically led to periods when employment declined. The most dramatic example of that was in 2007 when after a boom in job growth, the financial bubble broke, the nation descended into the “Great Recession” and one out of five jobs in Valley County, at least temporarily, disappeared. The booms and busts associated with that national economic cycle can be seen in the employment data shown in Figure 3 below.

“Jobs” here does not refer only to wage and salary jobs where a worker is hired by a business. The self-employed are also included in the total of individuals “working” or “employed” or “holding a job.”

Figure 3.

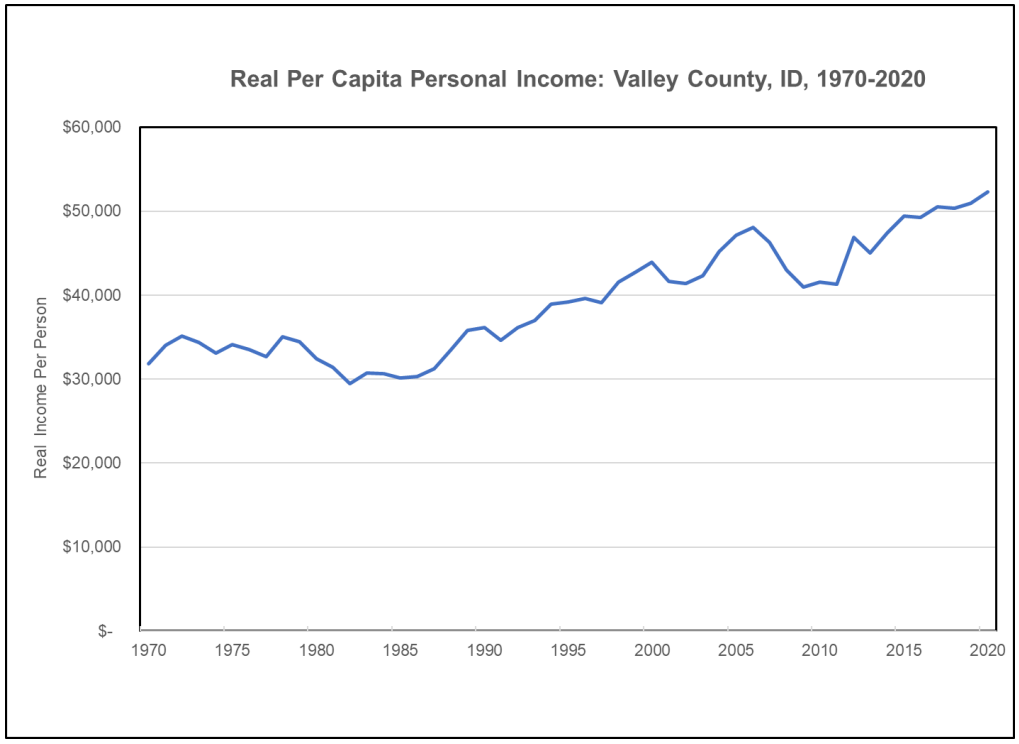


Source: U.S. BEA, CAINC4 Personal income and employment by major component, Valley County, ID.

iii. Ongoing Growth in Income Per Person

During this half-century-long view of the Valley County economy, average income per person rose significantly, from about $30,00 per person per year to about $50,000 in 2020, a 67 percent increase. This was after the impact of inflation had been removed. This was "real growth" in the purchasing power of residents' incomes. That was particularly true after the early 1980s when income per person increased by almost 80 percent. See Figure 4 below.

Figure 4.



Source: U.S. BEA, Regional Economic Information System. Converted to dollars of constant purchasing power using the Consumer Price Index.

iv. The Contribution of Forest Products and Mining to Valley County Economic Vitality

These positive economic trends in the growth of population, jobs, and real income per person over the past half-century in Valley County were not driven by the expansion in what often is asserted to be the county's historical economic base: metal mining and forest products. By 2001 those sectors of the Valley County economy provided less than a hundred jobs each, but then, during the economic fluctuations of 2001-2020, those two industries shrank to providing almost no direct jobs in Valley County and what extractive industry jobs there were, were volatile, varying in size significantly from year to year. See Figure 1 above for the metal mining industry and Figure 5 below for forest products.[6,7]

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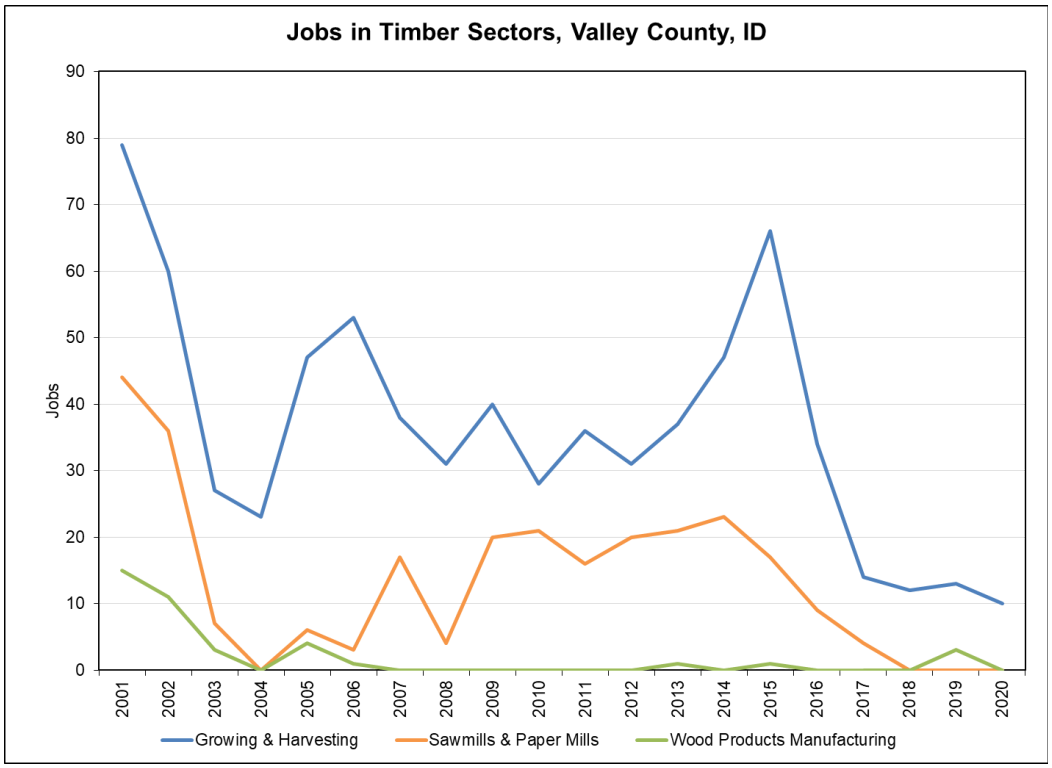
[6] Data on timber and mining sectors of the Valley County economy are somewhat limited because some of the information is suppressed to avoid reporting information on individual firms. In addition, some of the data series do not report on the number of self-employed workers. That tends to understate employment in those sectors. Finally, the data series begins in 2001 because the industry sector definitions were changed in the year 2000 from the previous Standard Industrial Classification to the North American Industrial Classification System. As a result, there is a discontinuity in the data between the economic data up to 2000 and the data reported for 2001 and later. We show only the data for 2001 and later.

[7] Headwaters Economics with financial support from the Bureau of Land Management, the U.S Forest Service, and other federal agencies has created and maintains a data base for each county in the United States that allows users of the system to create economic profiles of each county. See https://headwaterseconomics.org/eps.

Figure 5.



Source: Economic Profile System, Headwaters Consulting.

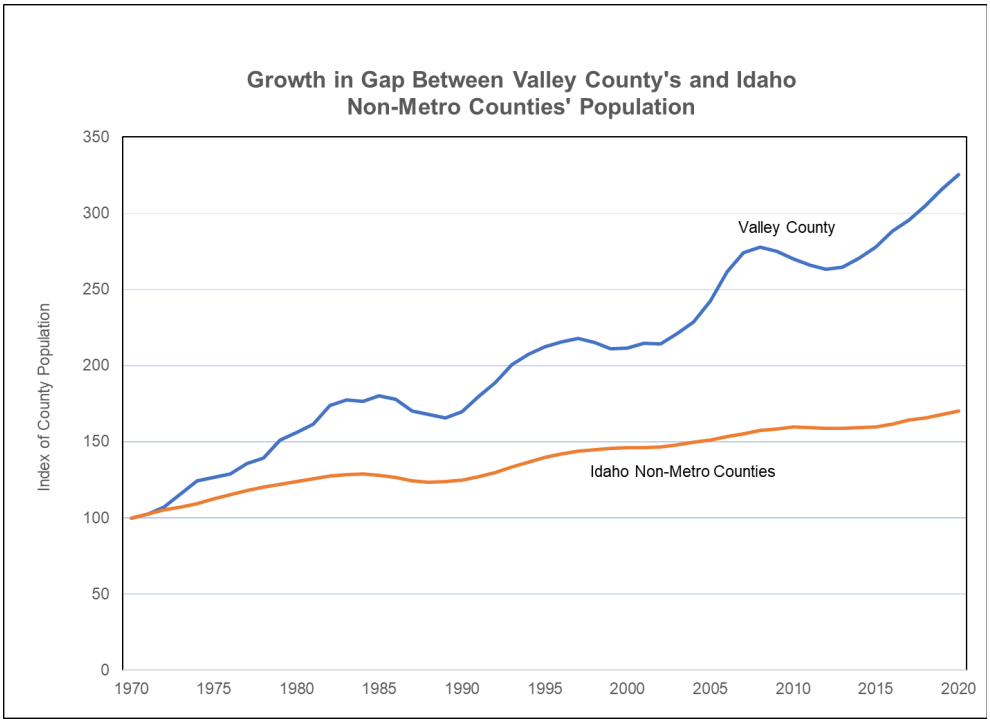
iv. Comparing the Valley County Economic Performance to Other Non-Metropolitan Idaho Counties, 1970-2020.[8]

The Valley County economy outperformed the other non-metropolitan Idaho counties as a group across a range of indicators of local economic vitality: growth in population, employment, and real average personal income per person. Figure 6 shows the high population growth rate in Valley County over the fifty-year period 1970 to 2020 compared to all of Idaho's non-metropolitan counties as a group. Because the population of all the non-metropolitan counties is much higher than just Valley County, we focus on the different growth rates expressing the changes in population as an index number that begins at 100 for both sets of counties. When that index value rises from 100 to 200, population has doubled, 100 to 300 indicates that Valley County population triples. etc. Clearly, Valley County was much more

[8] In evaluating the relative economic performance of Valley County, Idaho, we have chosen to use the economic performance of all of Idaho's other non-metropolitan Counties as a reference point. Large urban areas have socioeconomic characteristics that lead to quite different economies and societies. Given the relatively small population in Valley County, Idaho, (Just under 12,000 in 2020), it would be inappropriate to compare it to the largest urban areas of the state, e.g. the Boise or The Spokane-Coeur d'Alene Combined Statistical Areas.

successful during that half-century at attracting and holding residents than the whole group of other non-metropolitan counties in Idaho.

Figure 6.

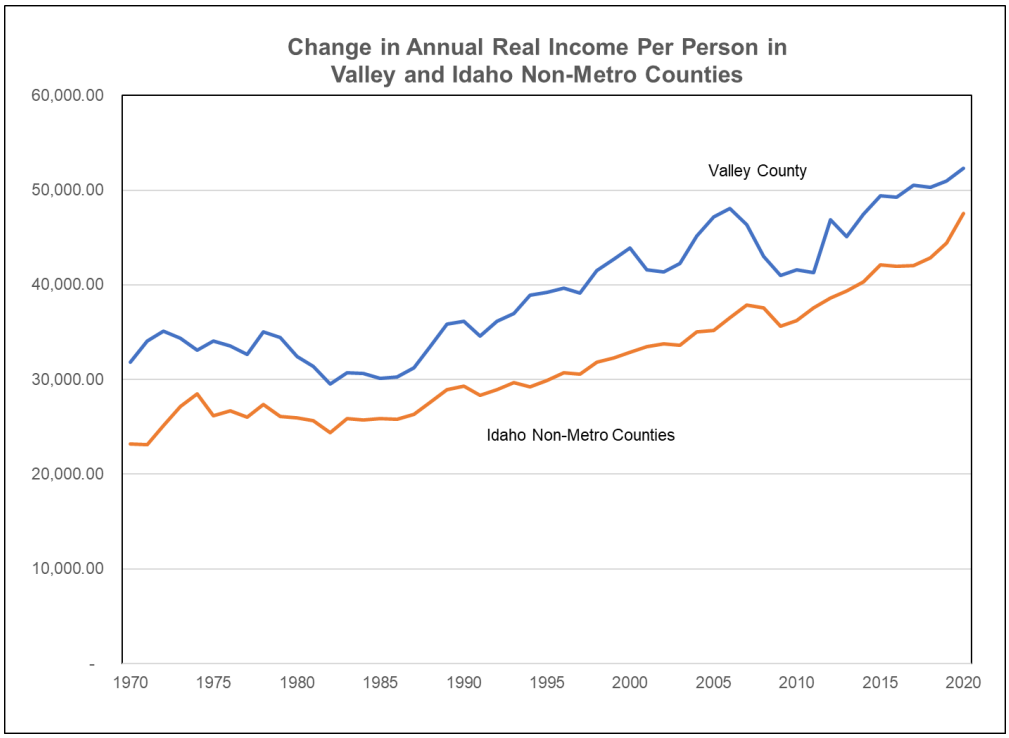


Source: U.S. BEA CAINC1, County and MSA personal income summary: personal income, population, per capita personal income.

One often used measure of overall local economic “prosperity” is average real income per person. That is calculated by summing up all of the income that flowed to individuals in the geographic area being studied and spreading all that income over the total population, i.e., dividing total personal income by the population. If we are interested in how this average income per person has changed over time, the impact of inflation should be removed by deflating the income data.

Figure 7 below compares how average income per person in Valley County to the whole group of Idaho non-metropolitan counties. Over the 50-year period we have been using, Valley County always had a higher average income per person. The distance between the two lines shows the size of the advantage Valley County had over the whole group of non-metro counties. That “bonus” average income that residents of Valley County receive varies significantly over time, from a high of $12,000 per person per year to a low of $4,000. The average “bonus” of the Valley average income per person compared to the non-metropolitan county level was $7,200 a year per person.

Figure 7.



Source: U.S. BEA, Regional Accounts, CAINC1 County and MSA personal income summary: personal income, population, per capita personal income. Adjusted for inflation using the Consumer Price Index.

1.3 The Sources of the Economic Vitality in Valley County: 2000-2020

i. Net In-Migration into "Attractive" Counties

As shown above, the population in Valley County has increased significantly over the last half-century (1969-2020), more than tripling, adding over 8,200 new residents. This was not due to a higher birth rate, i.e., births less deaths. If we look at the last decade, 2010-2020, the combination of natural growth and net in-migration added about 2,500 new residents in Valley County, but 87 percent of that growth was due to net in-migration, i.e., people "voting with their feet, those moving into Valley County minus those moving out, were boosting population in Valley County. This has significant economic implications because a growing part of personal income has become more "footloose," moving with individuals and households as they make residential location decisions.

ii. The Growing Importance of Income Not Tied to Current Work Activities

When discussing the local economy, as is demonstrated above, the tendency is to focus on jobs and the payroll that flows to workers in compensation for the work they do. That *labor income* is envisaged as circulating within the economy putting other people to work as workers spend their labor income to support their households. In doing so, they indirectly support other participants

in the local economy as those expenditures circulate from one economic factor to another within the local economy.

This economic model, of the circulation of money flowing through the local economy, correctly emphasizes the importance of the flows of income that coordinate and motivate a market economy. That focus, however, is almost exclusively on the circulation of *labor income,* which provides an incomplete view of the local economy. In the contemporary economy, people receive income from a much broader set of sources than wages, salaries, and the net income of the self-employed including:

- Investment income: returns on family assets: dividends, interest, and rent.
- A subset of the above: Retirement pension programs that provide a regular income not associated with current work efforts. Some of these are public programs (e.g. Social Security) while others are private pensions associated with past work activity.
- Government benefit programs that seek to protect access to basic necessities: medical care, food, housing, childcare, etc. Also, unemployment and disability compensation assist households during difficult times.
- Many of these are called “transfer payments” by economists because they are government economic benefits paid to individuals that are not paid in return for economic services rendered by those individuals.

There are two important aspects to these “non-labor” sources of income: First, in total, they are quite large and provide a substantial supplement to the payments households obtain from current work efforts. Second, these sources of income are often “foot loose” in the sense of moving from one location to another as the recipient moves geographically. The recipient does not have to reside in a particular local area (e.g. near a particular employer) to receive that income.

In 2020 the Non-Labor sources of personal income in Valley County totaled $355 million. In comparison, the Labor Earnings came to $261 million. That is, the Non-Labor personal income was 36 percent **larger** than the total Labor Earnings. Put another way, the Non-Labor Income made up 58 percent of the Total Personal Income received by residents of Valley County while Labor Income made up the other 42 percent.[9] See Figure 8 below.

Nation-wide Non-Labor Income has been growing more than twice as fast as labor income and is one-third or more of all personal income in nearly 90 percent of U.S. counties. With the Baby Boom generation reaching retirement age, it is likely Non-Labor Income will continue to be a growing source of personal income. As mentioned above, since the Non-Labor Income follows the recipient, areas that are attractive to retirees or others who have Non-Labor Income will benefit from these other important sources of Personal Income.[10]

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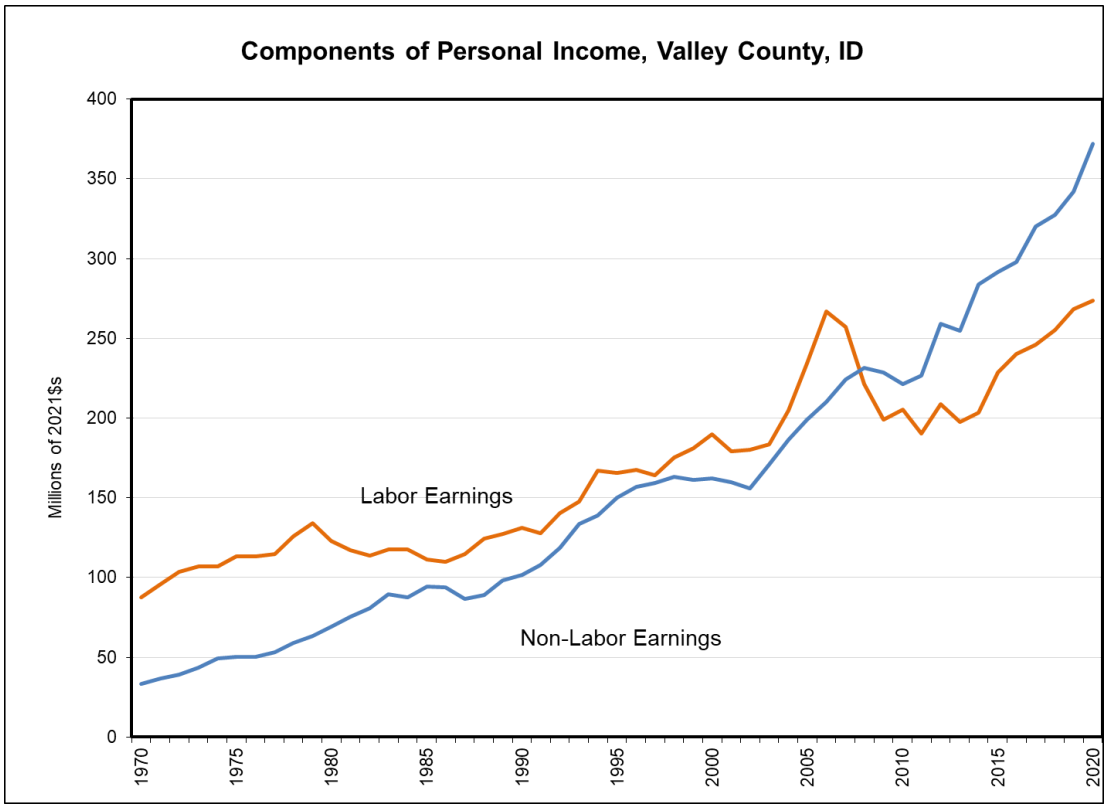
[9] Headwater Economics. Economic Profile System, Valley County, Socioeconomic Trends, Tab 2. 2022

[10] “Economy Surprisingly Dependent on Non-Labor Income”. 2017. Bozeman, MT: Headwaters Economics. https://headwaterseconomics.org/economic-development/trends-performance/economy-surprisingly-dependent-on-non-labor-income/.

Figure 8.



Source: U.S. BEA. Regional Economic Accounts, reported by Headwaters Economics' Economic Profile System, Socioeconomic Trends. 2021.

Note that in Figure 8 above, Valley County residents saw labor earnings increase relatively slowly between 1969 and 1999 and had more downturns than Non-Labor Income which had a more or less steady increase. Clearly, when thinking about income flowing into a local economy, the focus cannot be only on "payroll" or "wages and salary." Property Income as well as government support payments and pension programs provide a substantial non-wage supplement to labor income, boosting the flow of personal income to households.

iii. Economic Well-Being in "Recreation" Counties

Many rural counties have "economic bases" like Valley County's in the sense that visitor and recreation activities play a very important role in supporting the local economy. This has led to studies of the impact of such economic specialization in providing services to "visitors" and "second-home" owners on the local economic well-being of residents. Given that jobs in retail sales, food service, and accommodations are typically relatively lower paid, one might suspect that economic expansion that emphasized the proliferation of jobs in those sectors of the economy would not necessarily boost household or worker incomes.

But this type of casual empiricism is too superficial. Residents of a local area who receive "property income," i.e. dividends, interest, and rent, or those "senior citizens" who retire with

pensions that they and their employers contributed to over decades of employment are not likely to be classified as “low income.” Similarly, residents whose medical costs are covered by Medicare or Medicaid will support local medical services providers, many of whom are not low-income either. Residents who build or purchase second homes in a “resort” community will help to support local people working in construction, real estate, finance, interior decorating, architecture, etc. Again, professions that are not necessarily low paid.

More careful economic analysis is required before sweeping generalizations about changes in local economic well-being can be made about communities that specialize in outdoor recreation or capitalize on local high quality natural landscapes and community quality of life. Economists have tried to identify local areas that have specialized in “recreation” by looking at the share of local jobs that go to eating and drinking places, accommodations, guided recreation, entertainment, and art. In addition, they have focused on the share of vacant housing units that are used seasonally to identify communities with a high percentage of second homes and rental units. These economic statistics are used to identify “recreation-dependent” county economies.

The analysis of economic characteristics and dynamics of these “recreation” counties show several important characteristics of recreation counties like Valley County.[11]

a. Recreation counties are more likely to attract in-migrants, especially in rural counties.
b. Migrants to recreation counties have higher incomes relative to in-migrants who move to non-recreation counties and relative to existing residents.
c. Recreational counties tend to provide longer-term support by recruiting new residents who may be business owners, entrepreneurs, or workers, supporting growth in earning per job across a community.
d. If the recreation county is a rural county, the in-migration will stimulate the local economy, offsetting the economic drawbacks rural counties otherwise have.
e. Average pay per job in rural recreation counties were lower but were increasing much faster than in non-recreation counties.
f. Recreation counties were much less likely to have out-migration exceed in-migration.

This tends to maintain or increase population in rural counties which often have had to cope with population declines. This study summed up its conclusions as follows: “Recreation, especially in non-metro places, draws new residents, higher incomes, and faster earnings growth than places without [high economic concentrations in] recreation.”[12]

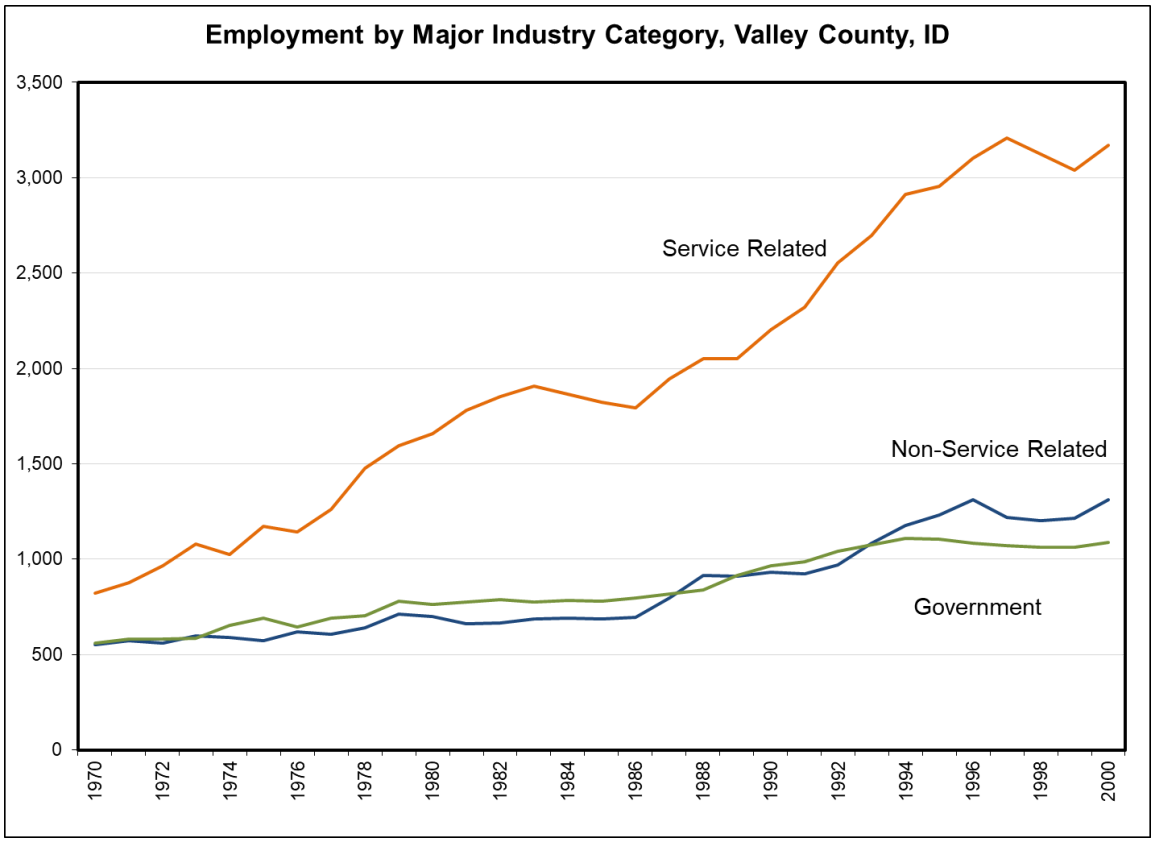
iv. The Shift of Economic Activity from Goods Production to Providing Services.

As indicated above, the historically important goods production in Valley County, forest products and metal mining, have declined in the last several decades as a source of jobs and income. That is not a unique trend found only in Valley County. Rather, it is a state and national economic change. As shown in the Figure 9, below, jobs in goods production (Non-Services-Related) were largely stagnant over the thirty-year period 1970 to 2000 relative to the growth in jobs in services sectors. During that 30-year period, jobs in Services-Related industries rose steadily, almost quadrupling (3.9-fold) over that 30-year period. Economic areas

[11] Headwater. Recreation Counties Attracting New Residents and Higher Income. Page 1. January 2019.
[12] Ibid.

that could meet those shifting demands of the market for services as opposed to goods, were more successful in serving those new markets and maintaining their economic vitality.

Figure 9.



Source: U.S. BEA. Regional Economic Accounts, reported by Headwaters Economics' Economic Profile System, Socioeconomic Trends. 2021.

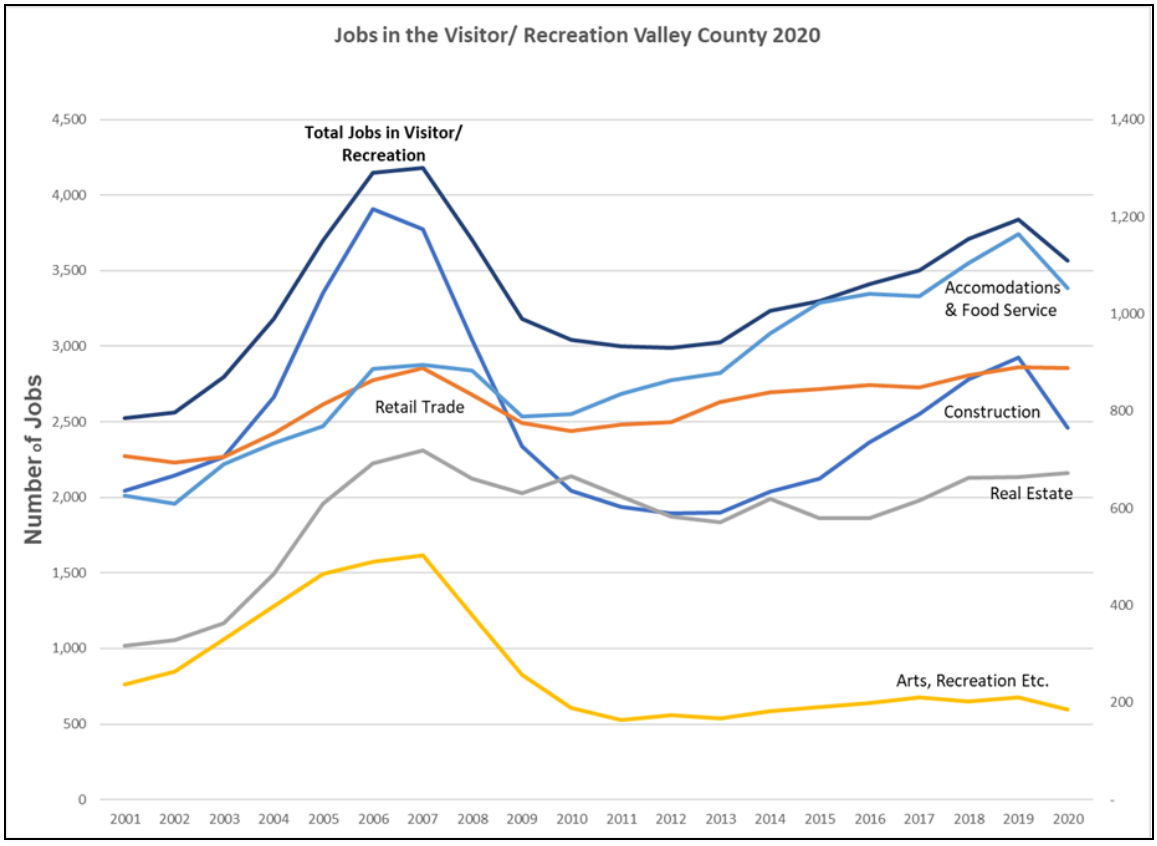
This shift from extracting "goods" from the landscape and processing them into products to be sold into national and international markets was dramatically visible in Valley County and the City of McCall. A "visitor" economy often somewhat mislabeled as "tourism," was being drawn to this relatively isolated location by the quality of the natural environment and the recreational activities that the natural landscape supported. Defining and measuring the "visitor" or "recreational" components of the economy is difficult because most of the economic activities that served residents also served visitors. The building of new and second homes, expansion of retail trade activities, the development of "food services" and the proliferation of guided recreation firms are some of the economic activities serving both residents and visitors. The growing visitor economy also strengthened and supported the long-run growth the Valley County economy as it ultimately attracted net in-migrants and the economy expanded and became more diverse.

Some of the new economic activity was clearly "visitor-related," e.g. lodging at hotels, resorts, etc. while "food services," for instance, served both residents and visitors. Home and business construction also served both seasonal visitors and new "permanent" residents. The same was

true of retail trade establishments. For these reasons, we have approximated the “visitor and recreation economy” by combining accommodations and food service, retail trade, construction, real estate, and art and recreation. These categories have been part of federal economic statistics for some time and collection of this “visitor” economy data has been given more emphasis by the federal “bean counters” in recent years.

Using these economic categories for the “visitor/recreation” economy, the total Valley County jobs in those categories peaked in 2007 at 4,200 jobs. This, not coincidentally, was the peak in the speculative boom that ultimately brought us the Great Recession when it collapsed in 2008. Recovery was slowed by Covid and is now threatened by economic uncertainty across the global economy. See figure 10 below.[13]

Figure 10.



Source: U.S. BEA. Regional Economic Accounts, reported by Headwaters Economics’ Economic Profile System, Socioeconomic Trends. 2021.

[13] The “Total Jobs in Visitor/ Second Home Economy” are shown on the left vertical axis. All of the sub-categories are shown on the right vertical axis.

II. Analyzing How the Proposed Mine's Work Force and Supplies Will be Obtained and the Reason This May Limit the Positive Impacts on the Local Economy

In this section we discuss the projected economic impacts associated with the Stibnite Gold Project (SGP). While Power Consulting was able to assess a variety of the local socio-economic impacts of SGP on Valley County, as presented in this study, we find it troubling that issues of HWY 55 transportation, spill risk, local wage scale problems, housing availability/affordability, and general infrastructure concerns were not adequately examined in either the Draft Environmental Impact Statement (DEIS) or the Supplemental DEIS (SDEIS). Public officials, elected leaders, and concerned citizens should not be making decisions about the future of their communities without a full comprehensive impact analysis having been carried out to inform their decisions. Specifically, the analysis that was done in the DEIS and SDEIS socioeconomic sections was largely a 'benefits only' analysis. In this section we will spend some time pointing out many of the different costs that were not quantified and showing why that is important.

Knowing *where* a proposed mine will get its operating supplies and its workers will help to determine what the economic impacts of the mine will be on the local area. If the mine is in a relatively remote setting, as is the case with the proposed Stibnite mine, then it is quite likely that the positive local economic impacts of the mine will be muted on the local area, which in this case is Valley County. The reason for this is that there are fewer economic links between the mine and the local towns that might otherwise supply the mine with the things that it needs to operate. The miners will work two-weeks-on and then two-weeks-off shifts and will live on site, at the mine during their "on" shifts. The mine will procure its supplies for itself and the miners ahead of time and will seek to lower their costs as much as they can. While there are small towns that are slightly closer to the proposed mine, larger cities like Boise are negligibly farther away, and will likely be the source of much of the mine's operating supplies that are purchased. This should not come as a shock to those that live in Valley County, since many of the residents of Valley County use Boise in precisely this same manner. Valley County is not a hub of industrial mining supply and has not been dependent on mining activity for some time. In fact, as we showed in the previous section, mining is not what drives the Valley County economy, and it is not what is driving the growth in Valley County. Valley County had a population of 11,085 in 2020 and 9,846 in 2010. This 12.6 percent increase, representing 1,239 people, is more than 10 times as many people as are projected to move to the local area by the DEIS for the operating phase of the proposed mine.[14] What we want to point out here is that many people are choosing to move to Valley County, and it is because of the current economy, the growth in the Valley County economy, and the natural bounty of the landscape, that they have decided to make that move.

As the previous section of this report documented, according to several economic metrics, Valley County has been doing well for itself in the recent past, and so it should look carefully at a proposed gold mine to make sure that the mine will be compatible with the sources of economic wellbeing that Valley County currently enjoys. In this section we will look at where the impacts of the proposed mine are likely to occur, where the miners and secondary workers for the mine are likely to come from and where they are likely to live, what the impact of the fiscal revenues

[14] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-21. August 2020.

generated by the mine are likely to be for the local area, and what the impact of having miners living in Valley County, but working such non-traditional shifts, will be.

2.1 Where Will the Impacts Be?

In the parlance of economics, 'multipliers' are often offered as an explanation of how any given project may benefit a community from a socioeconomic point of view. Multipliers, as the name suggests, describe the way that money created by a project circulates, or multiplies, in the local or regional economy. The more connected and complete the local economy, the more the local economy can capture and circulate the money created by a project. In this case, the project is the proposed Stibnite mine and the multipliers that have been discussed are associated with the mine workers spending their pay, or not, in the local area (Valley County) and the mine procuring the operating supplies that it needs, or not, from the local area. The higher the multipliers, the more the local area can support the mine by supplying the workers with the things that they need to live as they spend their pay, and the more the mine can procure its supplies from the local economy. The problem with this metric is that there are often very large multipliers for mines when the geography analyzed is very large, i.e. at a state or national level. But when we study impacts on smaller local areas, those multipliers may in fact be quite small. The reason that this is the case is that mines are often located in remote areas that are far from the supplies that a mine and or its miners need.

When economic impact modeling is done, as it was in this case, with a model named IMPLAN, the results are often quite surprising for people. When IMPLAN is used to model a local area, if there is a connection in the area, then IMPLAN will allow that connection to be made. If, for example, there is a gas station in Valley County that sells diesel fuel, then IMPLAN will assume that the mine can and will procure its diesel from that local supplier. The problem with this assumption is that the local supplier is likely incapable of supplying the volume of diesel that the mine will need, and the mine is unlikely to purchase it at a much higher price from the local supplier. The mine will instead attempt to minimize their costs and have the diesel fuel brought in from a regional or national supplier that can give them a much better price and more secure supply. If one is not very careful with the results of IMPLAN, specifically in a small, isolated economy, one can, mistakenly, allow connections that do not have an economic logic to them. We strongly believe that this is the case with the modeling done for the proposed mine. We will not turn this report into a referendum on the application and use of IMPLAN, but we do find it highly suspect that the mine will even procure a modest number of supplies from the very small towns found in the local area.

Valley County may be the site where a lot of wealth will be created, and the physical location of the mine, but it will not retain much of the wealth that is created. Section 4.21 of the DEIS describes the very large multipliers that will be created during the construction period, but it also shows that most of the positive impacts will occur outside of Valley County. For example, if we look at the total spending on the Construction Phase of the project, as shown in Table 2 below, we can see that the local area will be the source of a little less than 9 percent of the spending. The state of Idaho, which includes the local area, will be the source of 34 percent of the spending, and 66 percent of the spending will be from outside of Idaho. Put slightly differently, more than 91 percent of the spending on the Construction Phase will occur outside of the local area.

Table 2.

Total Spending For Construction Phase			
	Total Spending (Million)		% Of Total
Local	$	28.1	8.6%
State	$	110.9	34.0%
Nation	$	215.5	66.0%
Total	$	326.4	100.0%

Source: USDA Forest Service. Stibnite Gold Project. Page 4.21-8. August 2020.

The spending from the mine, on local supplies, is called "indirect" spending, and the combination of indirect and "induced" spending, where miners spend their direct pay, together represent the multiplier, or secondary impacts, that circulates money in the local area:

> "Construction activities are projected to support a total of $7.4 million indirect and $3.3 million per year (in 2017 dollars) in induced income within Valley and Adams counties' economies during the 3-year construction period."[15]

Based on the quote above, the $17.4 million in direct wages, created $10.7 million in indirect and induced income. This would then represent a multiplier of 0.615. In other words, for every dollar spent on direct wages, for the construction of the mine, 61.5 cents of "other" dollars are created. While the multiplier for the U.S. may be very high, perhaps as much as an order of magnitude higher or more, the fact is that the local area will receive only a very small fraction of the total spending during the Construction Phase. If we take this one step further and look at the assumed value of *all* of the minerals that are going to be recovered, which totals into the billions, and all of the local spending (direct, indirect, and induced)[16] on the three phases of the mine, then the local area stands to receive about 8 percent of the value of the minerals that are extracted from the mine.[17] Recall from Table 2 above, that this is quite close to the local spending percentages that are assumed in the DEIS. Put slightly differently, about 92 percent of the wealth that is created at the proposed mine will leave the local area.

In fact, 64 percent of the reported spending in the local area will be based on the direct pay of the miners who are purported to live in the local area.[18] In other words, the vast majority of the spending in the local area will be on the direct pay of the workers at the mine who are modeled to live in the local area. If, as we suspect, most of those workers will not live in the local area, then most of the local area's *direct* benefits will also leave. Since a large percentage of the multipliers for the local area are associated with the local workers spending their pay from the mine in the local area, this would then take a large percentage of the "secondary" pay out of the

[15] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-6 through 4.21-8. August 2020.
[16] Although we do not believe that Valley County will receive many of these benefits, we are using this as an example of the small percentage of benefits that will come back to the local area.
[17] This is a rather lengthy computation that uses the total spending in the local area from each phase of the Mine (pages 4.21-8,24, and 33), the length of time that each phase operates for, and the assumed volumes and value of the metals produced found on page 4.21-22 of the USDA Forest Service. Stibnite Gold Project DEIS. August 2020.
[18] If one adds all of the direct "local" pay from each of the three phases of the mine, then it represents 64 percent of the total local spending.

local area. The result is that we believe that assuming 8 percent of the value of the mine's production being spent in the local area is a very generous view of things. In our estimation, this value is likely to be only a couple of percent of the total value of the mine, at best.

While we believe that the local spending that is reported in the DEIS is likely too high, the exercise of calculating it is valuable to show that the local area will receive only a fraction of the wealth that is created. There will undoubtedly be many within Valley County who would be happy to have *any* amount of local employment and total spending. However, we feel that it is unlikely that Valley County will even see the meager impacts that are projected in the DEIS. The reason that we think this is that the locals themselves often shop in the greater Boise area. As the McCall 2018 Comprehensive Plan points out:

> "McCall gradually lost the traditional economic base (logging, milling, and crop-based agriculture) that drove local wealth in the 20th century. The region now imports most of its goods and services from the Boise metro area. It is paying for these imports with money brought in primarily by visitors, retirees, and the Forest Service."[19]

This makes economic sense. There is a large metro area (Boise) that is a little more than two hours away from McCall. While the residents of McCall likely do some of their shopping locally, for example when someone runs out of cream for their coffee, or eggs for breakfast, then the local store is the obvious choice. But given time to plan, many local people will plan to shop in Boise which has a more varied selection and cheaper prices. The same is true of the mine and the operating supplies that it will procure from the local area. It is certainly *possible* that the proposed mine may purchase some of its supplies in Valley County when they are in a bind, but generally they will plan to purchase them from a vendor that has cheaper supplies and a more varied selection. The other side of this basic argument is that Valley County does not have the ability to supply the proposed mine with many of its needs. Valley County, for example, does not produce mining equipment; nor is it a retail supplier of such equipment. Similarly, Valley County is not likely to be a competitive wholesale diesel supplier at the volumes that the mine will be purchasing. Remember that the ability to circulate money in the local economy is directly related to the local economy's ability to provide for the needs of the mine and/or mine workers. When those mine needs are very specialized, for example, mining supplies in rather large volumes such as explosives, various chemicals, mining, and chemical engineers, etc., it is easy to see why the multiplier impacts will be low.

This is the problem with relying on a model, like IMPLAN, which was used to model the impacts of the mine for the DEIS. The model assumes that because something *can* be purchased in the local area, that it will be. In practice, we find that it is unlikely that many of the supplies that are assumed to be purchased from the local area, namely Valley County, in the IMPLAN modeling, will be purchased there. Given the large volumes of supplies and the time to plan, the mine will choose to import supplies from the greater Boise metro area, or the U.S., or even the world. Remember that we are discussing the purchase of more than $260 million in materials, equipment, and services for the construction of the mine.

To a large degree, the same can be said about the potential for locals to work at the proposed mine. While some of the mine construction and operation jobs can be filled by locals that have

[19] McCall in Motion: 2018 McCall Area Comprehensive Plan. 2018. Page 74.

some construction experience, for example, Valley County is unlikely to have many unemployed mining engineers and hard rock geologists sitting around unemployed, waiting to find employment locally. For a host of reasons, including the very low unemployment rate in Valley County, the cost and availability of housing, the work schedule of the proposed mine, and the availability of workers in a County with relatively few residents, it is unlikely that many locals will be hired and unlikely that many of the proposed mine workers will relocate their residence to Valley County. Next, we will discuss why we believe that to be the case.

2.2 What is Local and Who is Likely to Live in the Local Area?

The boundaries of the physical area that is the economic impact study area is extremely important in determining the results of the study. The DEIS and the subsequent studies that it was based on are no different. If, for example Boise had been included in the "local" area for the DEIS, it would have dramatically skewed the results. The reason for this, as was discussed earlier, is that Boise can capture and circulate far more mine and worker spending than a small rural town in Valley County can. For *this* study, we have designated Valley County as the "local area". For the DEIS, it was Valley and Adams Counties[20] which is an acceptable alternative. Either of these *might* be appropriate, although we choose to focus on a narrower geographic area, and the county that would be the site of the mine. What is important is that the socioeconomics are described in a way that the people who will see the impact of the proposed mine, the locals, get a clear view of what may be in store for them. As we have already pointed out, the state of Idaho or the U.S. might well enjoy the benefits of the proposed mine, but they will not have to deal with the potential costs of the mine. Here we choose Valley County because it is where many of the projected impacts will take place. For example, it is the source of most of the DEIS's 100 local people projected to be hired for the mine work and the site of 100 others moving into the local area to work at the proposed mine.

> "Under the mid-value scenario, SGP [Stibnite Gold Project] operations would provide employment for 470 *Idaho* residents, of which 200 would live in *Valley County or Adams County*. As shown in the DEIS Table 4.21-3, it is expected that about 100 of these jobs could be filled by workers relocating to such a local two-county area."[21]

In this scenario there will be 100 local people working at the proposed mine and there will be 100 other mine workers that relocate to the local area. While this is possible, there are some compelling reasons to believe that neither of these scenarios will come to pass. First, when discussing the 100 locals that will work at the mine, which is slightly more plausible than some of the other reasons we will examine next, the unemployment rate is quite low in Valley County. The DEIS they assume that:

> "It is expected that most of the local construction workers would be adequately qualified and/or trainable for mine operations work and that many construction workers living locally or elsewhere within Idaho would likely accept mine operations jobs."[22]

[20] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-1. August 2020.
[21] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-21. August 2020.
[22] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-21. August 2020.

While this is a fine *idea*, the reality is that there are not enough "construction workers" in the local area to accomplish this. Looking at the 5-year American Community Survey (ACS) data from the Census for Valley County, there are 523 construction workers. It is possible that 100 of them will either quit and work at the mine or are already unemployed. However, that will only put upward pressure on the need for construction workers, and it is unlikely given the unemployment rate in Valley County. According to the St. Louis FED, the unemployment rate for Valley County was 3.1 percent in August of 2022.[23] Looking at the ACS data for Valley County there were 4,940 workers that worked between 1 and 52 weeks.[24] Combing the St. Louis FED and ACS data yields 153 available workers that are unemployed for the *whole* of Valley County. It is unlikely that *all* the unemployed people in Valley County are construction workers and is instead much more likely that somewhere around 16 of those 523 construction workers are unemployed, given the 3.1 percent unemployment rate. It seems unlikely to us that two-thirds of the unemployed people in Valley County will be qualified to work in the proposed mine. There is, of course, the possibility that the construction workers in Valley County will go to work for the mine in place of the jobs that they already have. If this happens then there will be a ripple effect through the construction industry as it will be harder to get people to do the construction jobs that they previously had been doing. All of us are now familiar with the different shortages of workers and supplies that is a result of the global Covid pandemic. This would only add to the current construction delays that are plaguing the U.S. and Valley County.

What is far more likely, is that the mine workers will simply come from outside of Valley County. The reason that we believe this, aside from the lack of available workers that we already discussed, is the work schedule of the mine. The mine will house people on site and will have them working two weeks on and then two weeks off. The mine will also be providing a shuttle service that runs from the Boise area which is a little more than a two-hour drive from McCall:

> "…non-local communities closer to Boise would offer greater housing options, amenities, and public services options within a relatively close travel distance (i.e., less than 2 hours) from the proposed employee bus/van pool pick-up locations in Cascade, McCall, and Donnelly (Highland Economics 2018)."[25]

Given that the mine workers will be commuting back from the mine every two weeks already, an extra two hours, or so, past the small-town pick-up locations does not seem like a terrible burden. It is, in fact, very likely that many of the mine workers will travel back to an airport like Boise and fly home to their residence somewhere other than Boise.

A complicating factor in all of this is that even if the local area was able to provide the workers for the mine, the 100 in-migrants that are projected to work at the mine will have a hard time finding housing. That is because Valley County does not have a lot of idle houses that are available to rent and or purchase. At first glance it may seem that this is not the case since the ACS data indicates that there are far more vacant houses than occupied houses in Valley County.[26] In fact, that data says that there are 8,621 vacant houses and only 3,920 occupied houses indicating that about 69 percent of all the housing in Valley County are vacant. However,

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[23] FRED. Unemployment Rate in Valley County, ID. Sep. 2022. https://fred.stlouisfed.org/series/IDVALL5URN
[24] Census. American Community Survey. 5 year estimates. Valley County.
[25] Stibnite Gold Project DEIS. Pages 4.21-9.
[26] U.S. Census. American Community Survey. 5 year estimates. Valley County.

if one travels to Valley County, you will notice that those vacant houses are second homes or vacation homes to which people from the surrounding area are very attached. That same ACS data shows that there were 91 houses for rent and 68 houses that were for sale. Again, it is possible that the 100 proposed in-migrants will purchase *all* 68 houses available and then rent 35 percent of the available houses, but this seems unlikely. Given that the median home value in Valley County in 2020, expressed in 2021 dollars, according to the ACS was more than $321,000,[27] which is about 34 percent more than the U.S. as a whole and about 14 percent more than Boise, it seems like a pricey option for potential miners to choose Valley County over Boise or the U.S. as a whole. In the DEIS, a rather fun idea is presented to get around the lack of available housing in Valley County. The idea is that it may be possible that the new in-migrant mine workers will be former residents of Valley County and that they will simply go back to living where they did in Valley County before! However, we find this suggestion speculative and unconvincing.

> "Some in-migrants may be former local residents who may reside with current residents when they return."[28]
>
> And…
>
> "Coupled with an increased prevalence of multi-generational households, a sizeable number of the in-migrating population may take up residence with friends or relatives that are existing residents and thereby have a lesser impact on local housing demand (Highland Economics 2018)."[29]

What we find convincing is that the people that work at the proposed mine will choose to live outside of Valley County. If they do choose to live in Valley County, then the residents of Valley County will see the available houses for sale go to near zero and the price of housing and rent increase. That has the potential to make Valley County an even less affordable place to live. Remember from Table 1 above that the number one industry in Valley County is "accommodations and Food Services." The problem with this is that this industry is also one of the lowest paid industries in Valley County. This necessarily means that increases in the price to rent or buy a home in Valley County will impact Valley County's largest group of workers the most.

Because there is a lack of available workers, because of the working shifts at the mine provide ample time off to travel back to wherever your home might be, and because there is not very much available housing and that housing that is available is expensive, it is unlikely that Valley County will be the residence of the mine workers. The Special Economic Report that was produced as part of the Supplemental DEIS process also points out that the house rental market in Valley County is becoming less affordable:

> "Conversely, median rental rates increased in Valley County by 4.5 percent ($727 in 2010 to $760 in 2018) … Between 2010 and 2018, the percentage of Valley County households paying more than 30 percent of their household income on rent grew from

[27] U.S. Census. American Community Survey. 5 year estimates. Valley County.
[28] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-12. August 2020.
[29] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-12 and 13. August 2020.

33.5 percent to 59.1 percent (Census 2010, 2018b). This increase indicates that the local rental market is becoming less affordable"[30]

2.3 Fiscal Revenues

Often, when a mine is sited in a rural area, the communities around the mine are encouraged by the mining company to think about all the desirable things that the local communities could do with the new tax revenue that would flow to local governments from the mines. The picture that is often painted is of local municipalities with coffers that suddenly overflow with tax revenue from the new mine. However, depending on the way that the taxes are structured, it may be very important to see how the taxes are allocated to other beneficiaries even if they are collected by the local governments. There are some taxes, for example, a general sales tax and its redistribution in Idaho, that is distributed to communities largely based on population.[31] This is important to understand because although there may be an increase in the collection of a sales tax, the distribution of that sales tax may not be representative of a change in the physical place where it is collected. Boise, for example, will see a far larger benefit from a mine buying supplies in Valley County, with respect to the sales tax, than those in Valley County. Valley County should also think about the potential increase in the demand for services that it might see directly or indirectly. While it can be very lucrative, for example, for a rural county to have a new metal mine, there may be a series of costs that come with the mine and its impacts. For example, what will be the impact on the roads, the schools, the EMS services, etc.? It would be important to be able to weigh the cost of the new mine in terms of the services local governments would have to provide to them. Directly or indirectly the mine would impose costs on the County, that the County would have to be able to pay for out of the new revenue that the County stands to gain from the mine. In this case, for Valley County, there appear to be no local fiscal benefits from the construction phase of the mine at all.[32] All of the projected taxes are state or federal. For the operations phase of the proposed mine there is $300,000 annually paid in property taxes[33] which will go to the local government, but all the other taxes are state and federal taxes. These cold facts are summed up in the DEIS:

> "As a result, Alternative 1 construction activities are expected to result in negligible tax revenue benefits for the local area's economy."[34]

With respect to the $300,000 in property tax that is paid annually by the proposed mine during the operations phase, we must remember that there is a cost that the mine is imposing on the local area. There is likely to be an increase in use of Emergency Medical Services (EMS), roads, schools, etc. The important question is then *if* the property taxes that are paid by the mine will offset the costs that the mine imposes on the local area. This point is made in the DEIS, but not explored.

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[30] USDA Forest Service. Stibnite Gold Project: Social and Economic Conditions Specialist Report. Page 19. August 2022.
[31] State of Idaho. Title 63: Revenue and Taxation, Chapter 36, Sales Tax. https://legislature.idaho.gov/statutesrules/idstat/title63/t63ch36/sect63-3638/
[32] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-17. August 2020.
[33] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-26. August 2020.
[34] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-18. August 2020.

> "The extent that the SGP- (Stibnite Gold Project)- related increase in local tax revenues would result in a net benefit to Valley County's public services would depend on the extent that they offset increases in costs to provide public services."[35]

Given that the Valley County budget for fiscal year 2021 is about $23.5 million,[36] this increase in property tax revenue would represent 1.3 percent of the County budget. If we look at total property taxes that were collected in Valley County in 2019, the most recent year available, then we see that a little more than $7.8 million was collected.[37] In this setting, the property taxes paid by the proposed mine would then represent a little less than a 4 percent increase. Neither of these metrics are negligible additions to the Valley County budget, but neither of them represents very large changes to the budget either. Without a careful accounting of how many people are likely to move into town and their impacts on the local systems, all that we can say with certainty is that the fiscal benefits are likely to be small, and the costs associated with the mine on Valley County are largely unknown.

To try and elucidate the uncertain net impacts of the proposed mine on the local government's fiscal balance we can look at some of the basic costs that a new resident might put on Valley County. The first cost that one might consider is that of schools. In Idaho, which spent the least amount on school per pupil, *in the country*, for fiscal year 2021, the state spent $8,376 per student.[38] The $300,000 per year in projected property taxes could then cover about 36 of the in-migrant miners' children attending school. The question is then, of the workers that will move into the local area, how many will have children of school age? The DEIS takes a guess, but does not then incorporate the cost of school into their analysis:

> "The public school system within the local area consists of several independent school districts located in McCall, Donnelly, Cascade, New Meadows, and Council. Under the mid-value worker residency scenario for Alternative 1, it is projected that up to 121 children may relocate to the local analysis area. In which case, the potential increase in school enrollment demand would be approximately 80 students (Census 2015; Highland Economics 2018). If these new students are evenly distributed across grades, then the average enrollment increase per grade would be approximately six additional students in each grade."[39]

If we believe that 80 students is the right number, then this will cost Valley County more than $670,000, which is significantly more than the increase in property taxes that the proposed mine

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[35] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-26. August 2020.
[36] Valley County. Proposed Valley County Fiscal Year 2021 Budget. August 2020. https://www.co.valley.id.us/media/Departments/Clerk/Budgets_Audits/Budget/FY2021/Publish-Revenue-Fiscal-Year-2021.pdf
[37] Valley County, Idaho. Report on Audited Basic Financial Statements and Supplemental Information. 2019. Page 7. https://www.co.valley.id.us/media/Departments/Clerk/Budgets_Audits/Audits/2019-Valley-County-Audit-1.pdf
[38] Thorington, J. Idaho again ranks last in education spending per student. Idaho Post Register. 5-11-2022. https://www.postregister.com/news/local/idaho-again-ranks-last-in-education-spending-per-student/article_4035d895-223a-58ba-8f36-796c3aa47d6e.html#:~:text=According%20to%20the%20report%2C%20Idaho,the%20national%20average%20of%20%2414%2C360.
[39] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-15. August 2020.

will pay.[40] Put another way, those 80 students would take up all the property tax money that is gained due to the presence of the mine in Valley County, and then some, and leave none for the other services which will have added costs because of the population increase. If those students, instead of being evenly distributed in each grade level, are more clustered in similar grade levels, then the County may have a harder time accommodating them.

> "Furthermore, if the in-migrating student population consists of more similarly aged children, then the increase for their corresponding grades would be higher and more likely to be difficult for the local school systems to accommodate. If this occurs, the adverse impact on the public school system could be very substantial if the current programs and facilities have insufficient capacity to absorb that additional student enrollment."[41]

One could try to make the argument that an individual's taxes cover the cost of children in school, but this is almost never the case. Our system is set up so that the whole of our society helps pay for the education of our children as a societal good. We wholeheartedly believe in this philosophy, but it does not discount the fact that if an additional 80 children are enrolled in Valley County schools, there will be an increased cost to Valley County residents. Funding of schools in Idaho is rather complex, but the largest portions of the state funds come from the property tax and sales tax[42] that are paid by residents of Idaho. In Valley County, which we already mentioned, the average home price is about $321,000 which equates to a property tax of around $1500 annually.[43] While digging into the sales tax part of this equation, since it largely runs through the state government and then is redistributed to the county and local governments, our point is the same. The individual taxes that are paid by the potential in-migrating miners will not cover the added cost to the schools. Finally, with respect to schools, which the last DEIS quote alludes to, there will likely not be enough room in the school systems for the additional 80 school children, which dramatically increases the potential costs. While we will not speculate on the cost of renovating or adding classrooms to the existing school systems

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[40] Although this is meant as an exercise to show that there are lots of undisclosed costs associated with the proposed mine, this is a rather tough task to complete with any fidelity. Although it is likely beyond the scope of this report, we have looked into this as deeply as we thought necessary. In a more nuanced look, it appears that McCall/Donnelly School district spends about $11,538 per student per year according to Idaho ED Trends. http://www.idahoedtrends.org/schools/173?question_id=2 If we then look at the average spending in Idaho per student, which is broken into State and Federal dollars, which are constant, and local dollars, which are not constant, we can see that McCall/Donnelly spends more than the average county, likely because of their slightly larger school mills according to Idaho ED Trends and "How Schools are Funded" from the Panhandle Alliance for Education. Following this thread, we can see that, if we accept McCall/Donnelly as a proxy, about $5,371 per student is paid by resident through property taxes. This would then assume that the $300,000 in increased property taxes would help to fund an additional 56 students and not, as we have stated above 36 students. However, aside from this being a rather circuitous route that is hard to follow, there are some assumptions that must be made to come to this calculation and in the end the numbers are relatively similar, so we will stick with the calculations in the main body of this report which are far easier to understand.

[41] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-16. August 2020.

[42] JA and Kathryn Albertsons Foundation. Five questions about education funding in Idaho. Page 22. https://dontfailidaho.org/pdf/JKAF_Rethink-Id-Ed-Funding.pdf and Panhandle Alliance for Education. How Idaho Schools are Funded. https://panhandlealliance.org/how-idaho-schools-are-funded/

[43] Idaho State Tax Commission. Estimated Property Tax. https://tax.idaho.gov/i-1072.cfm

to accommodate the children of the miners, it would be far more expensive than simply accommodating them in the existing school infrastructure if the capacity is available.

The reason that we looked a little deeper into the school issue as it relates to the additional cost of in-migrating miners, is to show how little of the costs have been quantified in the DEIS or by Perpetua Resources. We have already shown that the additional property taxes will not cover the cost of the additional students enrolled in school. This does not address all the other costs that Valley County will incur if hundreds of new miners move in. For example, it does not cover the cost of the damage that will be done to the roads in Valley County as all the heavy mining equipment and supplies for the mine pass through. The state of North Carolina looked at all the highway cost allocation studies that they could find and summarized them in their own cost allocation and revenue attribution study, and found that, in all of the State sponsored studies that they could find, heavy trucks, like the ones that will move equipment and supplied through Valley County, going to and from the potential mine, underpaid their incremental costs significantly.[44] The studies specifically noted that the heavier the vehicle, the more they underpaid. In Oregon, the underpayment was as much as 66.87 percent, in Nevada it was 73 percent, in Texas it was 35-49 percent, and in Idaho it was 27-33 percent. In every state study that was presented, the heavier the haul truck, the more they underpaid for the damage that they did to the roads. The corollary is obvious here, but we will lay it out to be crystal clear: The state of Idaho and Valley County will incur road damage from Stibnite bringing in the things that the mine needs to operate and the concentrate that the mine ships back out. The fees that the mine will pay will not cover the cost of those damages. This does not consider the potential for increased traffic accidents with large trucks, increased congestion in Valley County, or the nuisance of having thousands of large trucks constantly travelling through Valley County. It will also not cover the nuisance in the back country that is the attraction that the visitors and local recreationalists seek. These are some of the costs associated with the proposed mine that should have been discussed and quantified in the DEIS. There will undoubtedly be additional costs to the police, the fire department, the hospitals, the sewers, the roads, the telecommunications, etc.:

> “The population increase under Alternative 1 would likely result in limited effects to local police and fire protection services. Adams and Valley counties’ telecommunications and internet infrastructure operate at near capacity and, therefore, may have difficulty in maintaining service levels from increased service demand in some locations.
>
> Public service impacts under Alternative 1 would depend on both the location of any SGP-related population growth and the specific circumstances of the affected public services. It is possible that adverse public service impacts could occur to the local analysis area’s water and public school system, particularly if in-migrants are more highly concentrated in individual communities such as McCall (though this is hard to predict). In which case, there could be substantial adverse impacts to those public services.”[45]

[44] Hasn, M. at et al. North Carolina Highway Cost Allocation and Revenue Attribution Study. North Carolina Department of Transportation. NCDOT Project 2019-14. September 2021. Page 20, table 2.4
[45] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-16. August 2020.

In the above discussion of the potential impacts of the proposed mine we are not "talking out of both sides of our mouth." We would like to be very clear about this. Although we do not think that most of the miners will reside in Valley County, and, in fact, think that only a fraction of the hypothesized 200 miners will live in the local area, if they do find affordable homes there, they will bring a rather large cost to Valley County that is not offset by the small increase in Property Tax.

There are other potential costs associated with the siting of large industrial facilities in a "small town, rural area," other than the potential overuse of public and private infrastructure that then requires higher regular repair and maintenance costs and, possibly earlier replacement. Just as population growth could lead to the demand for housing to rise faster than housing supply, driving housing costs up, raising the local cost of living, something similar can happen when a large increase in the demand for workers is created by a large new industrial development.

The projected gross wage that Perpetua expects that it will be paying its Stibnite Mine work force will be about $91,000 per year.[46] This is far in excess of the prevailing wage in Valley County, even the prevailing wage for mining jobs in Valley County[47]. The SDEIS reports on the average wages by industry in Valley County using the Idaho Department of Labor data. The average wage across 12 different industries in Valley County was about $36,000 per employee. The average wage in Mining was about $80,000, over twice as much.[48]

Perpetua will be seeking its workforce for the proposed mine from local, as well as regional, and national, labor markets. This will, in effect, set up a competition for skilled workers within Valley County and the surrounding labor markets within commuting distance of the mine. Both government agencies and private businesses will find that some of their more capable employees will be attracted by the much higher wages that Perpetua will be offering potential employees. To retain their current work team, government agencies and private businesses will have to pay higher wages or accept less productive employees. This will increase the operating costs of organizations or reduce their productivity. For local government organizations that are already likely to be stressed by the increased usage of the infrastructure for which they are responsible, this will be a double cost burden.

Labor cost increases could adversely affect the capacity for public agencies that rely on lower paid, skilled workers for their operations (i.e., school bus drivers, garbage haulers, etc.) to continue providing their services. In addition to increasing their operating costs, in more serious cases, the labor shortages could result in business contractions and reduced public services if their work positions remain unstaffed. Contraction also could occur for private businesses relying on lower-wage or competing wage workers.

The DEIS and the socio-economic report that much of Section 4 of the DEIS is based on, clearly believe that the miners will move to the local area. What we are attempting to do here is to say

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[46] "Social and Economic Conditions Specialist Report," Supplemental Draft EIS, p. 38. "The "fully burdened compensation of all SGP employees (i.e. including management staff) is calculated to be $90,600 in 2017 dollars."

[47] The average mining wage for miners in Valley County was about $79,000 while Stibnite estimated its mining wages for its proposed operation would be about $91,000, about 15 percent higher. The Perpetua average included company management staff in addition to miners.

[48] Ibid., p. 21, Table 6-8. All values in 2018 dollars.

that we do not find much evidence to support this, but if it happens, the costs, which are largely unreported, will be far larger than the benefits, which have been reported by Perpetua and the Stibnite DEIS. While we will not attempt to explicitly quantify the costs of having the miners move to Valley County, we will continue to lay out some of the social costs associated with having them in Valley County. We feel that this is important so that the local people of Valley County know exactly what is being proposed for their communities.

2.4 Social Issues

While some of the impacts of the potential miners living in the local area are possible to quantify, many are not. For example, if we knew how many of the miners were moving to the local area, and if we knew how many of them had kids of school age, then we could quantify the cost of having the additional children in the schools in Valley County. This potential cost to Valley County was noted, but not quantified in the DEIS. As quoted above:

> "Furthermore, if the in-migrating student population consists of more similarly aged children, then the increase for their corresponding grades would be higher and more likely to be difficult for the local school systems to accommodate. If this occurs, the adverse impact on the public school system could be very substantial if the current programs and facilities have insufficient capacity to absorb that additional student enrollment."[49]

What is more difficult to quantify is the impact that the mine may have on the social fabric of Valley County. The proposed mine represents something of an anomaly for the local area. The miners will be living at the mine site for 2 weeks at a time in what are often referred to as a "man camp". When the workers two weeks of work are up, they will be bussed back through the local area, and, if you accept the numbers in the DEIS, hundreds of them will live in the local area. While we believe that most of them will live either in the greater Boise area or elsewhere in the U.S., it is instructive to look at some of the social issues associated with miners living in local communities.[50]

With a well-paid, predominantly young, male workforce, with weeks at a time off work, there are some social problems that can be expected to accompany this type of industrial development. If we assume that two hundred mine workers take up residence in Valley County, they will be outsiders by virtue of their odd schedule, even before they may or may not engage in some of the other social maladies are considered in the text below. Working away from your community, and for some workers, their family, for two weeks, and then not working and living in the community for two weeks, is not a schedule that most people would want to keep. Adding in a higher-than-average pay, a predominately young male demographic, and a culture that is created in a remote camp for weeks at a time, necessarily separates the workers from the other people that call Valley County home. In fact, there are other places that have dealt with this for some time that we can look to and see how they fared with similar mining work, demographics of workers, and similar work schedules. Places like the Bakken in North Dakota and Montana and remote mining locations in Canada and Australia provide a "natural experiment" to study the

[49] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.21-16. August 2020.
[50] For a review of the socioeconomic studies of the impact of mining "man camps" on rural communities, see Kerry Carrington & Margaret Pereira, 2011 "Assessing the social impacts of the resources boom on rural communities," *Rural Society* 21.1.2.

impact of this type of transient workforce. There are many important social issues associated with mining in rural areas that have significant impacts on the well-being of residents and communities, and workers, e.g., increases in alcohol and drug consumption, increased pressure on local law enforcement, increased incidence of sexual and aggravated physical assaults, increased presence of convicted felons, etc. These impacts will not show up in the typical commercial statistics on jobs and income that are typically used to document the benefits of expanded mineral extraction, but these social changes can have substantial impacts on resident well-being. These impacts can be felt as workers move to the local area to work for the mine, but they can also be felt when the mine shuts down, as pointed out in the Social and Economic Conditions Specialist Report from the Forest Service that was part of the SDEIS.

> "However, as discussed above, in the absence of interim measures, there would be potential for substantial "bust" impacts following the cessation of the SGP's mining operations from the subsequent local job and income losses. If there are insufficient replacement job opportunities for the local residents no longer employed (directly or indirectly), then the local area economy would experience increased unemployment and reduced economic activity. Depending on the severity and duration of the economic dislocation and recovery, many of the local residents formerly employed (direct or indirectly) by the SGP's mining operations may choose to relocate out of the local area to find employment."[51]

An increased population requires the police and other social services providers to do more work. While this is likely happening already in Valley County, as the population has been expanding rapidly for at least the last 30 years, it is likely that a new population of miners in Valley County might put a larger strain on EMS than the in-migrants of the last 30 years. Archbold studied this in "Policing the Patch", where "the Patch" referred to the Bakken "oil patch" on the North Dakota-Montana border.[52] In that study Archbold reported that 80 percent of the police officers interviewed said the oil boom had affected their work. While the impacts were many and varied, the most basic impact was that the officers were called out for service significantly more than they had been before the oil boom in the Bakken. In fact, "…Four out of the eight police agencies included in this study have had triple the number of calls for service since 2008. One agency had double the number of calls for service…"[53] Police get called out on all sorts of service calls, but the basic fact that the Bakken area had 2-3 times the service calls to the police during the oil boom points to something in the community dramatically changing. Whatever changed, it was serious enough that residents asked the police for assistance much more often than they previously had. That there was an increase in violent crime in the Bakken mirrors directly the experience in the Marcellus Shale region of Pennsylvania which saw a 30 percent increase in violent crime as the unconventional gas boom developed there.[54] The same sort of story is told in Australia where mining towns in Queensland experienced rates of violence

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[51] USDA Forest Service. Stibnite Gold Project: Social and Economic Conditions Specialist Report. Page 41-42. August 2022.
[52] Archbold, C. Policing the Patch: And Examination of the Impact of the Oil Boom on Small Town Policing and Crime in Western North Dakota. *Police Quarterly*. 2014.
[53] Archbold, C. Policing the Patch: And Examination of the Impact of the Oil Boom on Small Town Policing and Crime in Western North Dakota. *Police Quarterly*. 2014.
[54] Komarek, T. Crime and natural resource booms: evidence from unconventional natural gas production. *Annals of Regional Science*. 2017.

to which police responded increased between 1.4 and 2.3 times the state average at the five different mining communities studied.[55] While no two communities are identical, the added presence of a significant number of new mine workers is likely to increase the service calls to the police and other public social services, and there will likely be a rise in the number of assault cases.

Much of the literature on mining camps and mining town maladies attempts to draw a correlation between community dependence on mining and alcohol and other drug use and abuse. In the Northwest Territories of Canada, which have seen a large increase in mining in the last decade, Gibson has quoted the Royal Canadian Mounted Police (the RCMP): "The RCMP estimates that 80% of crime is directly or indirectly related to alcohol or drug abuse."[56] In the United States, in fact, mining has had the top billing as the drunkest industry. According to Bush:

> "Workers in the mining (17.5 percent) and construction (16.5 percent) industries had the highest rates of past month heavy alcohol use."[57]

This was the second time in a row that mining had topped this list of industries by level of alcohol use. While we might be tempted to think that this was just a U.S. problem, studies focused on mining-impacted communities around the world show that heavy alcohol use is a common problem no matter where the mining town is located.

The influx of strangers into areas experiencing a mining boom may undermine existing community's social controls on resident behavior and create an environment attractive to those with a history of criminal behavior. One study of energy development in the Greater Yellowstone region found that the number of Registered Sex Offenders grew about 2-3 times faster in counties dependent on oil and gas extraction relative to those dependent on recreation or agriculture.[58]

One should not be shocked by these findings. A large group of relatively young, single, transient, males, generally unburdened by families, who work long and demanding hours out of sync with the local standard work week, who have a large amount of money to spend and long blocks of idle time, are not likely to make good neighbors without significant public planning and provision of support services. While the miners' barracks or man- camps may indeed be "dry" in the sense that alcohol is banned on mining company property and the mining company may have very stringent rules about what the miners can and cannot do when on company property, the same rules cannot, and likely should not, be applied to towns in the vicinity of the mine when the miners are on their own time pursuing their private interests. Many of the cultural dislocations that they acutely experience are felt throughout mining towns all around the world. Parkins recognized those experiences in his paper on social structure, fragmentation, and substance abuse in resource-based communities:

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[55] Carrington, K. The resource boom's underbelly: Criminological impacts of mining development. Australian and New Zealand Journal of Criminology. 2011.
[56] Gibson, G. Canada's Resilient North: The Impact of Mining on Aboriginal Communities. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health* 3(1).
[57] Bush, M. Substance use and substance use disorder by Industry. The CBHSQ Report from the National Survey on Drug Use and Health. April 2015.
[58] Berger, J. Sexual Predators, Energy Development, and Conservation in Greater Yellowstone. *Conservation Biology* 24(3):891-896. 2010.

> "Specifically, the linkages between social structure, community fragmentation, and family dysfunction offer a way of understanding differential resistance and susceptibility to substance abuse. Five thematic areas were linked to susceptibility in this study: (1) an economy based on multiple divergent sectors, which gives rise to income disparity and social inequality; (2) a highly transient population, which results in social distancing and lack of social support; (3) shift work, which prevents opportunities for consistent and productive family and community relationships; (4) high incomes, which lead to material competition and financial stress; and (5) a culture of entitlement, which produces certain expectations and perceived privileges among some workers and their families."[59]

These "thematic" areas are exactly those that must be carefully considered when evaluating the social impacts of mining. It is the combination of these social impacts that leads a mining town, or a man camp, or the local area around a mine to become separated from the mine workers and leads to social dysfunction. A separate culture is created by the mine that, because of its structure, work scheduling, its pay, and the diverse cultures of its workforce, may not fit well with the existing residents of the towns and cities that are closest to the mine. The results are the specific social maladies discussed above. In this report we are not attempting to say that if the Stibnite mine is developed, then Valley County will be overrun by menacing mine workers. We are trying to point out that there will likely be an increased need for many of the services that Valley County provides. These services include emergency medical services, the police, and various social services that should all come together and plan to help mitigate some of the social maladies that are associated with mining which we discussed above. There will be increased time, money, and energy that needs to be spent in Valley County to accommodate the rather unique workforce that could be the Stibnite mine.

III. Amenity Values and Community Perception

3.1 Net-Migration, Amenities, and Local Economic Vitality

For several decades economists and economic development analysts have puzzled over the fact that among rural American counties, where slow economic growth and loss of population have usually been the rule, there have been a significant number of rural counties showing considerable local economic vitality in the form of population growth tied to net in-migration. Often that population gain has taken place despite the decline in the fortunes of the land-based economic activities that historically dominated the local rural economy: mining, agriculture, forest products, fishing, etc.[60] Clearly, people, voting with their feet, were indicating a more positive evaluation of the economic potential of some of these rural counties that were attracting in-migrants, often to some of the poorest areas of the nation.

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[59] Parkins, J. Linking social structure, fragmentation, and substance abuse in a resource-based community. *Community work and family*. 2011.

[60] For a review of the economic literature dealing with "The Economics of Amenities and Migration" see Garber-Yonts, Brian E. The Economics of Amenities and Migration in the Pacific Northwest: Review of Selected Literature with Implications for National Forest Management. 2004. United States Department of Agriculture, Forest Service, Pacific Northwest Research Station, General Technical Report, PNW-GTR-617, October 2004.

There was an obvious geographic pattern to some of this persistent local economic vitality. Much of it was associated with areas with more sunshine and warmer winter temperatures, hence the adoption of the “sun belt” label to identify those anomalous, more rapidly growing, rural areas. The general economic principle was that some locations had characteristics that made them attractive to potential inter-county migrants, such as a sunnier climate or a lower cost of living or a lower risk of being a victim of violent crime. Because the quality of local schools is also very important to many families, that too could serve as an “attractant” to particular areas. Local air and/or water pollution that may contain irritants or health hazards could also affect household location decisions.

Economists have labeled such site-specific positive characteristics of a particular location *amenities* and negative site-specific characteristics of a location, *dis-amenities.* But, if climatic characteristics could change migration patterns and the location of economic activity on a national scale, what other site-specific characteristics might support or undermine local economic vitality? Although cataloging such site-specific characteristics might seem like a hopelessly subjective undertaking, market economies for centuries have dealt with such subjective characteristics in every interaction of supply and demand as both consumers and producers evaluated in quantitative detail what the market opportunities were.

The location of economic activity involves both business firms and households evaluating the advantages of locating in one place as opposed to another. Both business firms and households will look at some of the same characteristics: What will pay levels be? What is the balance of labor supply and demand locally? What will the cost be of delivering different sets of goods and services to markets at different locations? Some of the local characteristics may be quite subjective: What is the quality of the schools and other basic urban infrastructure? How hostile or supportive is local government to the concerns of residents and businesses? Etc.

The economic importance of “climate” at certain times and places suggests that other *environmental* characteristics could be important to potential and actual residents: Levels of air and water pollution; crime levels, noise and congestion, urban density, the quality of public park systems and open space, diversity of cultural and commercial choice, the level of social and political conflict. Etc. This is certainly the case in Valley County, and their planning shows this.

The “comprehensive planning process” in Valley County, Idaho, and the City of McCall, Idaho, solicited input from over 3,000 residents and visitors to develop a set of values shared by both residents and visitors about what was attractive about Valley County. As the “2018 McCall Area Comprehensive Plan” has made explicit,[61] it is local environmental values that appear to be responsible for the net in-migration of new residents, the retention of visitors, and the accompanying vitality of the local economy. In the “Community Choices” survey that was part of the development of the Comprehensive Plan, “the number one value for residents and visitors [was] the mountain character and small town feel of McCall. That character was defined by the natural setting, open space, agricultural lands, good air and water quality.”

> “Access to nature-based amenities and an abundance of recreational opportunities were ranked second and third in the top reported values for the Valley County-City of McCall area. These features are part of what make McCall a thriving destination for

[61] P. 50

> visitors and place to live for residents…The community embraces environmental sustainability by managing its impact on the environment, including water and air quality, wildlife, soundscapes, the natural landscape, and trees."[62]

Open space and valued natural areas surround McCall. Public lands in the area are managed by state and federal agencies including the Bureau of Land Management (BLM) and United States Forest Service (USFS). The Payette and Boise National Forests surround McCall to the north and portions of them lie in both the area of impact and the study areas associated with the proposed Stibnite Gold Project.

These forests are composed of extremely diversified terrain including rugged mountains, high meadows, lakes, streams, and rivers. The USFS manages the Frank Church River of No Return Wilderness, a popular summer location with hiking and fishing opportunities, hot springs, historic homesteads, and Native American cultural resources.[63] That is just one of several federally protected wilderness areas and landscapes managed to support and protect a broad array of wildlife and the ecosystems on which that wildlife rely and, in turn, human visitors, also, highly value.

To some, this linking of natural landscape amenities along with enhanced human-crafted social, cultural, and urban physical amenities in Valley County, to local economic vitality may appear fanciful or just biased wishful thinking. As a practical matter, we are trying to understand why the economic vitality of Valley County continued and grew despite the near disappearance of much of the historical economy which had been the basis for the original development of those communities. The net in-migration that has boosted the region's population is real and hard to dispute. The high and rising property values are real as is the shift in ownership of residences from full-time residents to second-home or seasonal rental use. The ongoing increases in the share of total employment and payroll in accommodations, eating and drinking establishments, and recreation services tell a very compelling story that confirms residents' and employees' descriptions of their experiences living and working in Valley County.

There appears to be a consensus that Valley County is one of the many "mountain towns" in rural areas of the U.S. that have attracted in-migrants that stimulate population and economic growth. Scenic beauty, recreation features of the natural landscape, relatively low population density, wildlife habitat, clean air and water, etc. This economic transformation of "mountain towns" does not eliminate all economic problems or make it easy to develop a consensus about the objectives of public policy and the appropriate public policy tools to use to obtain those objectives. But a clear understanding as to what the economic forces are that are driving the dramatic changes in Valley County are necessary before rational public policies to protect and enhance the local economic vitality and quality of life there can be successfully implemented.

3.2 The Real Estate Agent's Mantra: "Location, location, location"

The underlying economic logic behind the reality of "amenity-driven" or "amenity supported" local economic vitality may look more familiar if we briefly talk about residential real estate markets. Some aspects of the value of residential property can be easily quantified: the square feet of floor area, the size of the lot, the age of the home, the number of bathrooms and

[62] Ibid. p. 50.
[63] Ibid. p. 88.

bedrooms. It is not that these quantitative measures can be combined to determine exactly what purchasers would be willing to pay for the residence or what sellers would accept as a reasonable price, but this information *is* somewhat correlated with the likely market price of a residential property.

However, all those quantitative measures have little to do with "location, location, location."[64] Most of us are able to identify "high rent neighborhoods" in the general region in which we live. We know what suburbs that have invested heavily over time in their schools. We know where the run-down public schools are. We hope we know what neighborhoods are relatively safe from crime. We know which neighborhoods have relatively uncongested and quiet traffic. In large urban areas, the level of air pollution may be much higher in some neighborhoods than in others because of air movements and temperature gradients. We probably know what neighborhoods are in transition from upper middle class to lower middle class or are moving in the opposite direction: gentrifying old, poor, neighborhoods.

Note that the evaluation of all these characteristics involves subjective judgements that involve placing a dollar value, at least implicitly, on very "subjective" characteristics. These are relative values in the sense that the evaluator would have to consider how important each of these characteristics was compared to the others: What would we be willing to sacrifice in travel distance, time, frustration, and accident risk, for example to gain access to higher quality of schools to which our children would have access.

It should be noted that real estate researchers and economists use the same statistical tools to determine what quantitative judgements in dollar terms buyers and sellers of residential properties make. That is, the variation in sales price of residential properties across large and diverse real estate markets will reveal the relative prices that buyers and sellers are implicitly placing on different qualitative characteristics of residential properties, including those associated with different location characteristics. Juggling all those different characteristics of alternative residential properties that we are considering may be difficult but participants in residential property markets regularly and successfully decide what price they are willing to pay for a residence or require before they will sell a residence. Residents and potential in-migrants to Valley County are regularly making similar judgements about moving-in or moving-out or staying put.

Residents and potential residents will have to balance all the different economic aspects of inhabiting a particular area to find the local mix of benefits and costs that best suits their preferences. Business firms will also have to adjust to the changing labor costs as well as the rest of the local cost of doing business. Business owners and managers have preferences for where they live too!

The U.S. Forest Service, not surprisingly, given the millions of acres of public lands it manages, has done some of the leading economic research evaluating the environmental services and

[64]Large, "park-like," lots are almost certainly likely to be associated with "high rent" neighborhoods. The same might be said about very large homes: "McMansions". Part of the point of the large lots and residences is to separate the very rich from other citizens. The well to do may also lobby for zoning restriction that pursue the same goal of providing the well-to-do with a culturally more homogeneous neighborhood.

values associated with forest lands.[65] The titles of some of that work indicate some of the findings, “Intra-Regional Amenities, Wages, and Home Prices: The Role of Forests in the Southwest.” “Forest Amenities and Location Choice in the Southwest.” In fact, the Forest Service, in its Social and Economic Conditions Specialist Report, filed as part of the SDEIS, points out how attractive Valley County is and how that attractiveness has enticed new residents.

> “Both Valley and Adams counties include large areas of federally administered lands. These federally managed lands, as well as the private lands surrounding them, are prized for their remoteness and natural beauty. In recent years, both counties have attracted new residents including recreationists and retirees looking for small towns, natural beauty, and wide-open areas and landscapes.”[66]

3.3 Creating Dis-amenities by Degrading Amenities

Most of the discussion above has focused on the environmental or recreational values associated with locations in and around Valley County and how recognizing those amenities helps us explain some land use patterns and outcomes. Recognition of the existence of these environmental values also warns us that if we are not careful about how we manage special landscapes, we may degrade significant existing amenities of considerable value, i.e we can degrade an amenity, potentially leaving a dis-amenity behind that leaves many people worse off. We can burden ourselves and others with losses, leaving them worse off because they have lost something of value to them and/or have had to take costly steps to shield themselves from that loss.

Of course, the same economic tools that can be used to estimate the value of the amenities at a particular location can be used to measure the cost of a dis-amenity created by degrading existing environmental qualities. In fact, those economic tools often have been used to calculate the damage done by the creation of noxious sites at particular locations, e.g. the locating of polluting activities such as coal-fired electric generators, the building of radioactive waste processing facilities, the locating of large regional waste disposal facilities. The noise associated with many contemporary economic activities: The hum associated with operating large numbers of electronic servers; the noise associated with regional airports and congested trucking routes; noxious odors associated with the ponds of animal waste created at “factory farming” sites or urban sewage treatment and disposal facilities. Etc.

Metal mining has the potential to convert what are now amenities, namely world class natural landscapes of mountains, forests, streams and rivers, and the wildlife that inhabits them, into dis-amenities. Existing valuable benefits may be converted into their opposites: waste lands that may deteriorate indefinitely into the future.

The Executive Summary for the USFS initial Stibnite Gold Project Draft Environmental Impact Statement provided the following description of the Stibnite Gold Project:

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[65] Ibid.

[66] USDA Forest Service. Stibnite Gold Project: Social and Economic Conditions Specialist Report. Page 22. August 2022.

> "The Stibnite Gold Project proposed for the mountains above the Valley-McCall area would be a large and complex industrial operation. That Project consists of a mine site and processing facilities, associated access roads, and off-site facilities located in Valley County in central Idaho. The mine site is in the East Fork South Fork Salmon River (EFSFSR) drainage basin.
>
> The Stibnite Gold Project site area is a complex blend of both remote wilderness lands with high recreational values and potential wilderness characteristics, and areas impacted by historical gold, silver, antimony, and tungsten mining, processing, and resulting legacy contamination. The potentially affected area encompasses approximately 3,500 acres.
>
> [The Stibnite Project] plan of operations would conduct mining operations that produce gold and silver doré, and antimony metal concentrates using three open pit mines, transportation equipment, ore processing facilities, development rock storage facilities, a tailing storage facility, a water treatment facility, road construction, electrical transmission lines, and various other facilities needed to support mining activities.
>
> The Project would require upgrades and new construction to electric infrastructure outside of the mine site and subject to different approvals. The plan of operations incorporates closure and reclamation activities, and mitigation that may avoid, minimize, or compensate for adverse environmental effects caused by the Project and also incorporates actions that mitigate legacy contamination at locations within the mine site. Under the Project plan the construction, operations, closure, and reclamation phases of the Project would take place over a period of approximately 20 years, not including the period of time required for long-term monitoring and maintenance. Environmental monitoring and maintenance would continue for as long as needed to demonstrate that the site has been fully reclaimed. "[67]

The "processing" of the ore to produce gold and silver doré as well as antimony ore concentrates will involve many different industrial chemical and physical processes at the mine site in the mountains of Valley County, including:[68]

- The crushing and grinding of the currently mined ore as well as reclaimed historical tailings.
- The use of flotation technology to concentrate the antimony and gold/silver ores.
- The leaching of the gold and silver from the concentrates using sodium cyanide.
- The gold-cyanide complex would be treated with activated carbon and the carbon with the gold-cyanide complex would be washed with an acid solution and then a hot alkaline solution.
- The resulting gold-bearing solution would then be transferred to the electrowinning refinery.
- The molten material from the induction furnace, principally gold and silver, would be poured into doré bars that would be shipped offsite for further processing and refining.

[67] Page ES-2.
[68] Chapter 2 of the original USDA Forest Service. Stibnite Gold Project DEIS. August 2020.

- Stibnite expects to store the liquified waste (tailings) from all of these processes in a pond behind a 460-foot-high dam that it will construct on federal National Forest lands. The pond will ultimately occupy approximately 423 acres.[69]
- In the processing of the various streams of metal ore, caustic alkaline and acidic washes are used to increase the concentration of the metals being sought. Those liquids have to be neutralized before being disposed of.
- The metal ore concentrates and gold and silver doré must be shipped from potentially isolated rural mine and ore processing sites to national or international markets where they can be further processed to convert them into manufactured products. This can lead to congestion and pollution in the mountains, valleys, and rural areas through which the metals and metal ore concentrates must be moved.

Mining, mineral processing, and transportation of potential noxious or toxic material can degrade environmental quality from the mine to the concentrators to the huge waste tailings storage facilities that often permanently damage ground water and present the risk of catastrophic failure of the dams holding back huge amounts of toxic liquified waste to the local population. It is important to keep in mind that the proposed Stibnite Gold Project would site a large industrial chemical project in the head waters of one of the most important recreational rivers in the Inland West, namely, the Salmon River. The Stibnite Mine is located on the East Fork of the South Fork of the Salmon River. The Salmon River would become the mine's waste disposal facility. In one important sense, the proposed Stibnite Project represents a gamble that puts at risk a known and existing recreational economy that is supporting economic vitality in Valley County. What is being offered in its stead is a speculative but threatening open pit mining venture that, if it is commercially successful, will bring only a relatively small and short-run "bump" in additional economic activity in Valley County.

3.4 Stigma

When a mine or other types of industrial facilities are proposed near where people live, the people that live in the area, as well as the people that know about the new facility and the area, whether they live there or simply travel there, may change the way that they think about that area. To help understand how this might play out, we present two scenarios to help illuminate how people might think differently about an area after an industrial facility or mine is sited nearby. In one scenario, there is a mine that is sited right on the boundary of a National Park, directly adjacent to a river that flows into the park. In the second scenario, there is an industrial facility that is sited right next to multiple other industrial facilities in a manufacturing hub in the upper mid-west of the U.S. In the first scenario, it is likely that there would be some sort of public outcry. This would likely happen because if the mine is permitted and begins operating, people's view of the National Park and the nearby towns might change to some degree. It is likely that people would not see the National Park, the river that flows into it, and the nearby towns as environmentally pristine as they did before. In the second scenario, there might not be much of a mindset shift because the area in which the industrial facility was sited already had been thought of as polluted and dirty. However, in both scenarios the facilities would be thought of as having a "stigma" attached to them associated with the environmental degradation assumed to be associated with a particular industry located there.

[69] Ibid. p. 2-33.

The phenomenon of *stigma* is something that economists have been studying for some time. In fact, there is a relevant economic literature dealing with how the stigma associated with a place might affect economic decisions. The stigma that this literature analyzes was created by concerns about an environmental pollutant or a source that taints people's perception of the attractiveness of an area. This could be a landfill, a coal mine, a metal mine, an industrial facility, a polluted river, etc. For example, a place that would otherwise be considered desirable to live in, to move to, to vacation or recreate at, has a stigma associated with the environmental degradation from an industrial facility nearby that discourages people from going there. This literature has paid special attention to what is called the "new West" as much of the western U.S. has transitioned from resource-based economies to service-based economies. With that transition, many former mining towns, like Park City, UT. for example, have been able to erase and/or mitigate their stigma to become high-amenity destinations. Colocousis succinctly described stigma in this way:

> "However, scholars have more recently documented the relationship between negative external perceptions of poor communities and their inability to attract new investment, a dynamic in which community stigma functions as a sort of ''Achilles heel'' in attempts at redevelopment (e.g., Erickson et al., 2008; Sampson and Raudenbush, 2005)…The processes through which certain places become stigmatized on the basis of perceived environmental risks and are therefore viewed as undesirable have also become a focus of study in recent years."[70]

What Colocousis found was that even in high amenity areas, areas that were situated near intact forests, mountains, or near rivers that people would otherwise want to visit or live near, in-migration, tourism, and redevelopment were not evenly distributed. Skouloudis links a "place-identity" to local areas that can be impacted by high-risk industrial facilities. This is an argument that almost everyone will readily recognize. When we think of the areas that we would like to visit, or have visited, that are high-amenity locations, we attach a place-identity to them when we think of them as in the National Park example above. McCall, ID., for example, is another location that is associated with pristine high-mountain lakes that are surrounded by mountains and forests. The identity to McCall is inseparable from that of a high-quality mountainous lake environment. This desirable mountainous area is presumably the reason that, as we pointed out earlier in this report, almost 70 percent of the homes in Valley County are second homes of people who spend their free time in the area. This attachment of place and identity is why, when an industrial facility is sited in one of these high-amenity areas, the potential for a negative impact on that area could be considered.

> "Wester-Herber's review paper (2004) points out the need to include local attachment to a specific geographical place in the debate on industrial risks and delineates how aspects of place-identity can be negatively affected when changes are made to a landscape by the introduction of high-risk industrial ventures."[71]

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[70] Colocousis, C. ''It Was Tourism Repellent, That's What We Were Spraying'': Natural Amenities, Environmental Stigma, and Redevelopment in a Postindustrial Mill Town. Sociological Forum. 2012.
[71] Skouloudis, A. et al. Industrial pollution, spatial stigma and economic decline: the case of the Aspos river basin through the lens of local small business owners. Environmental Planning & Management. 2016.

In the most recent Supplemental Draft Environmental Impact Statement that was released in October of 2022, there was a Social and Economic Conditions Specialist Report[72] that pointed out the same attachment that is described in the economic literature. Instead of a "place identity" that we just described, they call it a "sense of place."

> "The central Idaho region provides residents and visitors a natural and rural setting with a remote character, outdoor recreation opportunities, natural beauty, and scenic quality of public lands. Many area residents value these characteristics. The "sense of place" experienced and valued by central Idaho communities is based on the region's remote and rural setting, natural and undeveloped landscape, along with topography and vegetation, and the presence of cultural and traditional uses (e.g., open rangelands). "Sense of place," can be described as an unquantifiable value that attracts people to specific locations, generates a community identity, and ultimately contributes to the overall quality of life for residents (Williams 2014)."[73]

The quote above is exactly in keeping with our analysis. It is a connection with the land that the local people feel. They are drawn to the area because the lands are "prized for their remoteness and natural beauty. In recent years, both counties have attracted new residents including recreationists and retirees looking for small towns, natural beauty, and wide-open areas and landscapes."[74] Again, this is exactly what our report is attempting to point out. The extra step that we are taking now, that is not taken in the Special Report nor in the DEIS/SDEIS, is that there is a very real potential that the proposed mine will impact the character of Valley County and make it a less attractive place to live.

What this stigma literature makes clear is that even if we are focused on a high-quality amenity area like Valley County, it *can* be negatively impacted by the possibility of a new high-risk industrial source, like the proposed Stibnite mine. Even though a particular town might be in a high-amenity area, if it had a source of known industrial pollution nearby, or the potential for a new source of industrial pollution, its growth might not be the same as the county or regional growth. For example, in rural Coos County, NH., and the City of Berlin, NH. that were studied by Colocousis, the "tourism sector is the second largest in the state and account for a fifth of Coos County's economy, but only 4% of the city's."[75] In other words, in the County that was known for tourism (Coos), that was specifically related to high amenity outdoor experiences, the town that had these same amenities but had been stigmatized by their past industrial pollution, there was a drop of 16 percent between the tourism that the County received (20 percent of their total economy) and the 4 percent that the stigmatized City received. Or put another way, tourism represented 5 times as large a place in the County's economy as it did in the City's. In fact, this City has taken to encouraging motorized recreation, which is more resource intensive and has a much larger impact on the local land, as opposed to Coos County, which has in general adopted lower-impact recreational activities like mountain biking, hiking, and less resource-intensive

[72] USDA Forest Service. Stibnite Gold Project: Social and Economic Conditions Specialist Report. August 2022.
[73] USDA Forest Service. Stibnite Gold Project: Social and Economic Conditions Specialist Report. Section 6.4 Page 22. August 2022.
[74] USDA Forest Service. Stibnite Gold Project: Social and Economic Conditions Specialist Report. Section 6.4 Page 22. August 2022.
[75] Colocousis, C. ''It Was Tourism Repellent, That's What We Were Spraying'': Natural Amenities, Environmental Stigma, and Redevelopment in a Post-industrial Mill Town. Sociological Forum. 2012.

activities. In this case, the stigma associated with the industrial pollution has dramatically altered a small town's ability to capture tourism dollars and has forced them to embrace a much more resource-intensive section of the tourism economy that is not faring as well. The city, and the surrounding area, are perceived as being polluted and so it has, as a strategy to deal with its stigma, catered to a type of outdoor recreation that perpetuates that perception with real negative economic consequences.

3.5 The Possibility of a Spill from a Traffic Accident

The proposed Stibnite mine is in a remote location in Valley County. Regardless of which one of the different alternatives is being considered, the supplies that the mine needs to operate will have to be sourced from far away. A few of the supplies will come from Valley County, but the vast majority, as we have carefully laid out in the preceding sections, will come from outside of Valley County, and many from outside of Idaho. Because the Stibnite DEIS was so vague about the potential for a spill while transporting supplies to the proposed mine, the Idaho Conservation League and Advocates for the West hired Susan Lubetkin to review the Stibnite DEIS in 2020.[76] The result of that review is a rather sobering take on the potential for a spill along the transportation corridor to the mine.

> "More than 30 different hazardous materials will be brought to and from the mine site if the SGP is approved. Those hazardous materials include fuels, explosives, acids, and toxic materials, but the dangers posed by the reagents are not discussed. Under Alternatives 1, 3, and 4, more than 7.7 million gallons of bulk liquid hazardous materials in at least 1,100 truckloads, as well as more than 143,000 tons of bulk solid hazardous materials in at least 5,300 truckloads, will be transported along the roadways every year. Under Alternative 2, more than 9.2 million gallons of bulk liquid hazardous materials in at least 1,300 truckloads and more than 95,000 tons of bulk solid hazardous materials in at least 3,300 truckloads will be moved along the transportation corridor annually. Although the SGP DEIS promises that there will be a pilot vehicle to accompany bulk liquid transport, only 522 pilot cars per year are shown in traffic impact studies. Spills from SPCC facilities may be twice as likely as spills from vehicles, but the SGP DEIS did not discuss the possibility of spills from storage facilities."[77]

While we will get into the possibility, that is mentioned at the end of the quote above, of a spill from a Tailings Storage Facility, here we are focused on the transportation of materials. As the quote above alludes to, and we have spent some time discussing, most of the material for the mine will be sourced outside of Valley County. The result is that the mine materials, many of them hazardous, will have to come from far away and be brought through Valley County to the proposed mine site.

> "I was able to find potential distributor locations nearest to Cascade, Idaho for 21 supplies that would be used at SGP. Only five supplies (propane, gasoline, nitric

[76] Lubetkin, S. Review of the Transportation Corridor Risks of Hazardous Material Spills in the Proposed Stibnite Gold Project Draft Environmental Impact Statement. 10.27.2020.
[77] Lubetkin, S. Review of the Transportation Corridor Risks of Hazardous Material Spills in the Proposed Stibnite Gold Project Draft Environmental Impact Statement. 10.27.2020. Page ii.

acid, sulfuric acid, and hydrogen peroxide) were available within 100 miles of Cascade, Idaho. Diesel fuel was available inside a 250-mile radius. The remaining reagents I was able to find distributors for were only available from cities that were up 500 or 1,000 miles away."[78]

The problem with sourcing the mining supplies from far away is, of course, that they need to travel a much longer distance before they reach the mine. The way that the potential for a spill is calculated is based on the mileage that the material will have to travel as well as the type of road and the conditions of the road that the truck that is hauling the supplies must travel on. The farther away, or the rougher the road, the more potential there is for a spill. Since many of the supplies must travel a great distance and there is a lot of dirt road that needs to be traveled to get the supplies to the proposed mine, this increases the chance that there will be a spill. Because there are often rivers and bodies of water in this portion of Idaho, there is also an increased potential that if there is a spill, it will impact a body of water. After considering more appropriate and recognized spill rates, considering the condition of the roads, and considering more than just the SH-55 to mine portion of the haul routes, Lubetkin found that:

"**Overall, spills and crashes involving heavy vehicles are near certain to occur for all Alternatives**. The calculations shown here serve as an example of the general process for estimating spill and crash numbers and likely underestimate the risks. Still, these numbers indicate that the impacts that spills and accidents may have on the environment and human safety along the transportation corridor should be seriously and thoroughly considered.

The SGP DEIS's rudimentary attempt at quantitatively estimating the risk of hazardous materials spills was constrained to a limited analysis area and a single source (trucks) of potential spills. This narrow consideration of the possible impacts of the transportation corridor and hazardous materials misses other effects. Transportation impacts extend beyond the risk of spills. Mine-related spills of hazardous materials can come from many processes besides transportation. The conclusions in the DEIS that spills along the roadway will have limited if any impacts on fish and the aquatic environment are not justified. Neither are conclusions that spills from chemical storage will be rare or small."[79]

We will now turn to the possibility of a spill from the proposed Tailing Storage Facility.

3.6 The Possibility of a Tailings Storage Facility Failure

Tailing Storage Facilities (TSF) are the permanent storage features at a mine that will hold back the toxic sediments that are left over from processing the ore to obtain the metals. In the modern age of mining, and especially when dealing with open pit mines, there is an incredible volume of rock that is moved to recover a very small amount of metal (in this case gold, antimony, and silver). The metal that is recovered, measured in single grams per ton of rock

[78] Lubetkin, S. Review of the Transportation Corridor Risks of Hazardous Material Spills in the Proposed Stibnite Gold Project Draft Environmental Impact Statement. 10.27.2020. Page iii.
[79] Emphasis added. Lubetkin, S. Review of the Transportation Corridor Risks of Hazardous Material Spills in the Proposed Stibnite Gold Project Draft Environmental Impact Statement. 10.27.2020. Page iv.

moved, is between 1 and 2 in this case.[80] In other words, the percentage of gold in the rock ore being mined is thousandth of one percent. Aside from this being an amazing example of the value of gold, we bring this up also to point out that 99.999 percent of the rock that is mined and processed will have to be carefully stored in or as part of the TSF. The overburden, and any other rock that is either below the threshold that makes sense for them to process and or does not react poorly with the air or with water, can be used to help buttress the "downstream" TSF. This specific TSF design (downstream) is among the soundest TSF designs that are currently being used. The waste rock from the processing, as well as waste rock that cannot be in contact with the air and or with meteoric water (rain), will have to be stored in the TSF. The TSF will then be entrusted with keeping those toxic sediments out of the Salmon River until *the end of time.* This is one of the most serious problems with metal mining in the world. Although the design of the TSF for the proposed Stibnite Mine appears to be a good one, it will eventually suffer the same fate of all TSF, it will fail. No one knows when the Stibnite TSF will fail, and it has been designed so that it can, for example, stand up to a once in 475-year seismic event.[81] But the fact is that it will eventually fail. While one might think that this seismic event is a very high standard to require a TSF to meet, what it means is that in any given 50-year period, there is a 10 percent chance that there will be an earthquake that exceeds this standard.[82] While this might seem like a low probability event, the potential damage that comes with it is extreme. These low probability, high impact events need to be taken very seriously and approached with extreme caution. We are not exaggerating the risks associated with the possibility of the TSF failing. In recent research, and research that we report on here, the rate of TSF failure is increasing and not decreasing as one would expect with technological advances, and or time.[83]

In January of 2017, the Center for Science in Public Participation released an updated list of worldwide TSF failures.[84] This list includes data on 291 TSF failures including the location and year of the failure; for 42 of the locations the list also includes the date that the associated mine or processing facility became active. We used this list and added the active starting date for 56 additional facilities with failures that occurred since 2000 to determine the maximum age of storage facilities that failed.[85] Out of the 59 TSF failures that occurred since 2000, we could determine the active starting date for 46 facilities. The average age of TSF that between 2007 and 2016 failed is 43.4 years with a maximum TSF age of 134 years and a minimum TSF age of 1 year. This average age of TSF failures is slightly less, but not significantly different from the

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[80] Midas Gold. Midas Gold Completes Positive Feasibility Study for the Stibnite Gold Project, Idaho. 12.22.2022. https://midasgoldcorp.com/investors/news/2020/midas-gold-completes-positive-feasibility-study-for-the-stibnite-gold-project-idaho/

[81] USDA Forest Service. Stibnite Gold Project DEIS. Pages 4.2-8. 2020.

[82] Gould, N. Understanding the Language of Seismic Risk Analysis. Expert Commentary from IRMI. 2003. https://www.irmi.com/articles/expert-commentary/understanding-the-language-of-seismic-risk-analysis

[83] See citations and research below.

[84] Center for Science in Public Participation. Tailings Dam Failures 1915-2016. http://www.csp2.org/files/Tailings%20Dam%20Failures%201915-2016-4%20.xlsx

[85] The maximum age of the failed TSF are calculated by the year of the failure minus the year that the facility became active.

average age of 45.2 years for the TSF failures between 1940 and 1999.[86] Although the data is sparse, they indicate that the average age of facilities at which TSF failures occur has not greatly improved with advances in tailings dam construction. This is not surprising considering that most tailings dam failures occur at active dams (see table 3 below).[87] In other words, the technology clearly has not been improving with the mining methods because TSFs are failing before the mining is over. The TSF, in years old, is not even zero years since it has not begun its "long watch" which begins when the mine is officially closed.

Table 3.

Recreated from Table 9-1. Number and cause of tailings dam failtes at active and inactive tailings dams.			
Failure	Number of Tailings Dam Failures*		
Failure Causes	Active Dams	Inactive Dams	Total
Overtopping	20	8	28
Slope Instability	30	1	31
Earthquake	18	0	18
Foundation	11	1	12
Seepage	10	0	10
Structural	12	0	12
Erosion	3	0	3
Mine Subsidence	3	0	3
Unknown	15	3	18
TOTALS	122	13	135
*Data are presented for 135 tailings dam failures for which causes were reported, from 1917 to 2000			
Source:ICOLD 2001.			

Further, a 2015 study of TSF failures shows that the occurrence of “Serious” or “Very Serious” TSF failures has increased decade-by-decade since 1940.[88] This study also shows a negative correlation between increased number of serious or very serious TSF failures and copper ore grade, copper production cost, and copper price (See the table 4 below). In other words, as either the price of copper, the production cost of copper, or the grade of copper ore decrease, the number of serious or very serious failures increases. While we do not want to speculate on the mechanisms that cause the failure, the correlation would suggest that when there is less money coming into the mine, the failure rate increases. As we have shown, as mines go after lower and lower grades of ore, the size of the TSF must increase at an exponential rate. For example, an ore that has 1 percent gold has 99 percent waste rock that must be stored somewhere. A mine that has .1 percent gold, or 10 percent of the initial value has ten times as much waste rock as our initial condition, or 99.9 percent waste rock.

Table 4.

[86] Between 1940 and 1999 there were 225 TSF failures, 52 of which we have active starting dates for. A decade-by-decade breakdown of the average age of TSF failures from 1947-2016 ranges from 19.5 years (1947-1956) to 61.9 years (1957-1966).

[87] U.S. EPA. An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA 910-R-14-001A-C, ES, 2014. CHAPTER 9. TAILINGS DAM FAILURE

[88] Bowker, L., and Chambers, D., 2015. The risk, public liability, & economics of tailings storage facility failures. http://www.csp2.org/files/reports/Bowker%20%26%20Chambers%20-%20Risk-Public%20Liability-Economics%20of%20Tailings%20Storage%20Facility%20Failures%20%E2%80%93%2023Jul15.pdf

Table 3.1 Correlation Between Failure Severity and Mining Metric Indicators

	Cu Ore Production	Cu Metal Production	Cu Grade	Cu Prod Cost	Cu Price
Very Serious Failures	0.860	0.881	-0.794	-0.788	-0.427
Serious Failures	0.720	0.826	-0.884	-0.682	-0.126
Other Failures	-0.265	-0.099	0.298	0.300	0.489
Other Accidents	-0.216	-0.050	-0.312	0.281	0.485

Abbreviations:
Cu Prod Cost = Cost to produce copper concentrate from copper ore, including waste disposal
Cu Grade = grade of copper in the ore
Cu Prod = copper ore production
Other Failures = tailings dam failures and incidents other than Serious or Very Serious Failures
Serious Failures = Serious tailings dam failures
Very Serious Failures = Very Serious tailings dam failures

Sources: USGS Metal Statistics (2014a), Schodde (2010), ICOLD (2001), WISE (2015) & additional

The authors further conclude that, with respect to TSF design, the ability to recover smaller percentages of valuable minerals has not been accompanied by better TSF:[89]

> "The advances in mining technology over the past 100 years which have made it economically feasible to mine lower grades of ore against a century of declining prices have not been counterbalanced with advances in economically efficient means of managing the exponentially expanding volume of associated environmental liabilities in waste rock, tailings and waste waters."

Finally, with respect to studies on TSF dam failures, the most recent data, from 2022, comes to the same conclusions:

> "…since 1915, a total of 257 failures have been recorded with circa 2,650 fatalities and 250 million m^3 of contaminated residues released to the environment. Almost 50% (115 million m^3) of the released volumes have been recorded after 2000, with circa 640 fatalities. These data highlight that the challenge of safely storing mine waste is growing in scale and complexity"[90]

In other words, advances in TSF design and safety have not kept up with advances in mining, resulting in greater environmental risk associated with TSF from more recent construction. It is our understanding that this, in large part, has to do with the massive volumes of waste rock that are created at these open pit mines coupled with the increased incidence of heavy rainfall events.[91] The proposed Stibnite mine is no different. A recent study by Piciullo et al. sums things up quite neatly:

> "Tailings dams are commonly built incrementally to increase the storage capacity of the Tailings Storage Facility (TSF), usually without interrupting the mining activities. Dam management practices, lack of knowledge on tailings behavior and the poor

[89] Bowker, L., and Chambers, D., 2015. The risk, public liability, & economics of tailings storage facility failures. http://www.csp2.org/files/reports/Bowker%20%26%20Chambers%20-%20Risk-Public%20Liability-Economics%20of%20Tailings%20Storage%20Facility%20Failures%20%E2%80%93%2023Jul15.pdf
[90] Piciullo, L. et al. A new look at the statistics of tailings dam failures. Engineering Geology. 2022.
[91] Piciullo, L. et al. A new look at the statistics of tailings dam failures. Engineering Geology. 2022.

> performance of monitoring and management processes have resulted in disastrous tailings dam failures with human and economic losses, as well as huge environmental consequences to ecosystems and local communities."[92]

We bring up these failures with TSF to highlight that there is a very real chance that the TSF will fail while Valley County is still a populated human settlement. If that failure happens and the Salmon River is polluted by the waste rock and cyanide that is used to process the gold, then there will be a massive environmental cleanup that has to take place. That cleanup will have some stigma attached to it and it will, as we have described above, negatively impact Valley County. In fact, there does not have to be a spill from the proposed Stibnite mine for the stigma to impact Valley County. Just the presence of a gold mine with the potential to create a massive environmental disaster in Valley County is enough to have some stigma attached to Valley County. While we are not using this example as a direct corollary or forecast a massive TSF breach that poisons the Salmon River, or that there will be a 16 percent drop in tourism associated with the proposed mine as described earlier in this section, Valley County should certainly think long and hard about the potential for the proposed mine to impact their economy.

3.7 The Economic Value of High Quality Natural and Social Environments

As discussed *above*, residents of and visitors to Valley County recognize the important *economic* values associated with the natural and social setting of McCall and Valley County. The 2018 McCall Area Comprehensive Plan, developed under the guidance of the Valley County Commissioners and McCall City Council, reported on a survey of 3,000 residents and visitors it carried out as to what the values were that made Valley County an attractive place to live, work, and do business.

> "[T]*he number one value* for residents and visitors [was] the mountain character and small town feel of McCall. That character was defined by the natural setting, open space, agricultural lands, good air and water quality." "Access to nature-based amenities and an abundance of recreational opportunities were ranked second and third in the top reported values of survey participants for the Valley County-City of McCall area. These features are part of what make McCall a thriving destination for visitors and place to live for residents…"[93]

Our discussion also documented the high level of economic vitality that Valley County has been able to attain and maintain over the last half-century. Compared to all of Idaho's other non-metropolitan counties as a group, Valley County has significantly outperformed these other non-metropolitan counties. One often-used measure of overall economic "prosperity" in a particular area is *average real income per person*. That is calculated by summing up all of the annual income that flowed to individuals in the geographic area being studied and spreading all of that income over the total population, i.e. dividing total personal income by the population. If we are interested in how this average income per person has changed over time, the impact of inflation should be removed by deflating the income data to the current value of the dollar.

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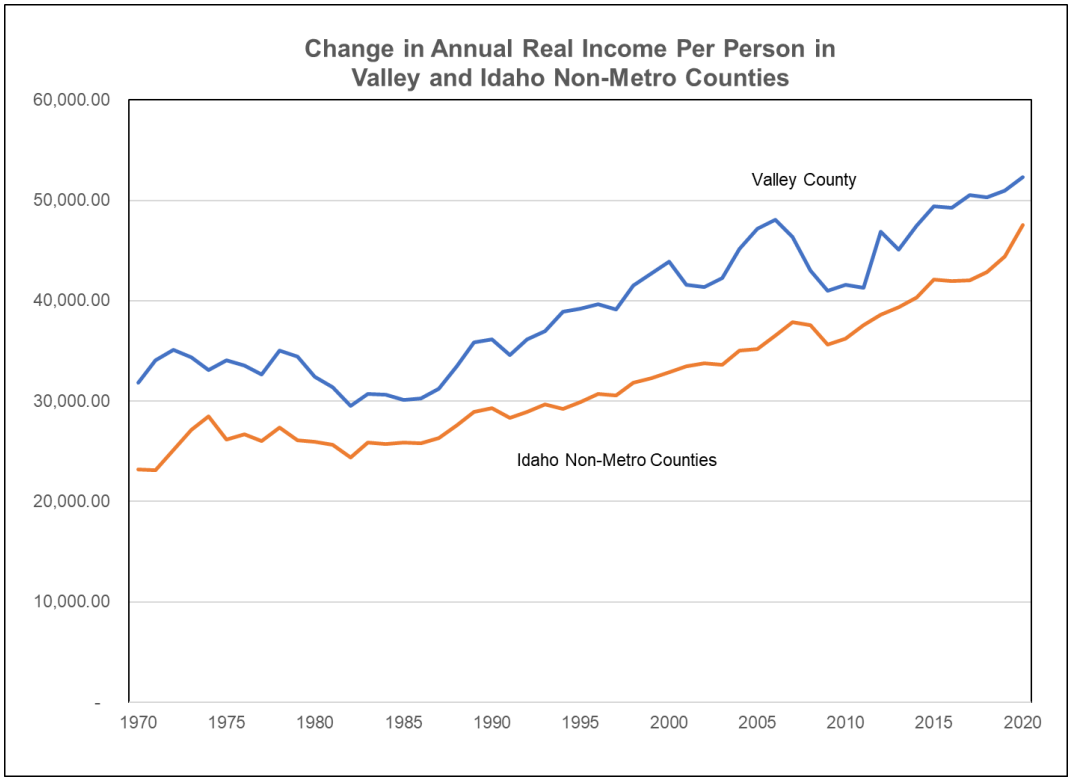
[92] Piciullo, L. et al. A new look at the statistics of tailings dam failures. Engineering Geology. 2022.
[93] Op. Cit. "Comprehensive Plan," p. 50.

Figure 11, below, shows this inflation adjusted average annual income per person in Valley County over the last half-century. As can be seen, over the 50-year period we have been using, Valley County always had a higher average income per person than the group of all Idaho non-metropolitan counties. The distance between the two lines in the chart shows the size of the advantage Valley County had over the whole group of non-metropolitan counties. That "bonus" average income that residents of Valley County received varied significantly over time, from a high of $12,000 per person per year to a low of $4,000. The average "bonus" to Valley County residents compared to the group of non-metropolitan counties was $7,400 a year per person in 2020 dollars. The sum of those benefits across all Valley County residents in 2020 was $87.3 million per year.

Of course, to the extent that the productivity of the local economy can be maintained, this "bonus" income will be a recurring annual benefit to the residents of Valley County. A stream of income over time, of course, is worth more than just one of those payments.

Figure 11.



Source: U.S. BEA, Regional Accounts, CAINC1 County and MSA personal income summary: personal income, population, per capita personal income. Adjusted for inflation using the Consumer Price Index.

The hypothesis offered to explain the relatively high measures of local economic vitality in the City of McCall and Valley County "Comprehensive Plan" was that the landscapes in and surrounding Valley County were largely managed for conservation purposes by Federal Agencies. These lands provided a wealth of recreational opportunities to residents and visitors. In addition, the City of McCall had managed to protect its small-town community "feel" despite the relatively fast growth and transformation of the city into a recreation destination. This

attracted visitors some of whom became residents and helped the city to hold on to its residents, supporting modest ongoing growth.

This hypothesis, that protected natural landscapes would stimulate local economic vitality was analyzed in a 2013 study, appropriately titled "The Effect of Protected Federal Lands on Economic Prosperity in the Non-metropolitan West."[94] "Protected" lands were public lands managed by government agencies for conservation purposes rather than commercial extractive activities. National Parks, National Wilderness Areas, wildlife refuges, and Wild and Scenic Rivers etc. are examples of such "protected lands". Valley County was one of the western non-metropolitan counties that was included in the study. The study calculated the part of the average income per person in each county that was due to the amount of protected federal lands in that county.

There were 284 non-metro counties in the west, containing 46.2 million acres of protected public lands. Sixty-one non-metro western counties contained no protected public lands. Only nine non-metro western counties contained more than one million acres of protected public lands. Valley County was one of those: Valley County had the third highest number of protected public acres in the west.

The study's conclusion about the impact of this high level of protected federal lands on average income per person in Valley County was that in 2010 dollars, average income per person in Valley County was $11,626 higher than it otherwise would have been. That added about one-third to what the average income per person in Valley County would have been without any protected public lands.[95]

As the study summarized its results:

> "These estimates represent the average effects of protected public lands after accounting for the presence of other public lands, the presence of other natural amenities, the degree of access to markets, the growth or decline in commodity sectors, and the presence of protected public lands in neighboring counties."[96]

If we adjust this impact on income per person in Valley County for inflation between 2010 and 2020 and use the population of Valley County in 2020, the implied total additional income due to the protected federal lands in Valley County was $163.1 million per year.

Figure 11, above, provides a less sophisticated measure of the advantage residents of Valley County have over the group of all non-metropolitan counties in Idaho as measured by real income per person. The average difference between real income per person in Valley County and the same income measure for the group of all Idaho non-metropolitan counties was $7,400 per person. The sum of these annual bonuses in income per person across all residents of Valley County would be $87.3 million per year.

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[94] Rasker, Ray et. al. 2013 The Journal of Regional Analysis & Policy, 43(2):110-122, MCRSA.
[95] "Per Capita Income Explained by Protected Federal Lands in the Non-Metro West." http://headwaterseconomics.org/land/protected-public-lands-increase-per-capita-income/
[96] Ibid. p. 118.

3.8 The potential impact of a spill on the Salmon River from the proposed Stibnite mine

We have spent some time and care in describing the link between the Valley County economy and the natural environment in which it is immersed. That economy is very sensitive to the potential for environmental degradation at the proposed mine. We will not go into details about what a potential spill might look like or how it might happen. We have already laid out the literature that describes how often a TSF releases toxic material in one form or another, and we have already discussed the stigma that comes with a mine and or a spill from a mine. What we seek to do here is to present a scenario where there is some sort of toxic release, or a series of releases, from the proposed mine and the South Fork of the Salmon River is impacted. Again, we will not talk about a specific event, but we will assume here that there is a need to mitigate the damage done to the river system and that it will take time to evaluate the damage and design and carry out remediation measures. For this exercise, we will assume that there is a series of spills over the life of the mine and that it takes an additional ten years to complete the cleanup once the mine has finished operations. We are not suggesting that the spill will be so massive that it takes ten years to clean it up. We are suggesting that remediation takes some time to be planned, carried out, and monitored. The extent of the pollution must be quantified, a plan to clean up the mine site and the downstream affected environment must be thought through, and then the cleanup process must be completed. Once the cleanup has been completed, it will take some time for the natural environment to recover, and it will also take some time for the stigma associated with the mine and the environmental degradation to abate.

In our scenario this process is assumed to take 25 total years. This is the 15 years that the mine is planning to operate as well as the time that it will take to close the mine, plus an additional ten years to clean up, allow the environment to recover, and the stigma associated with the mine and the spill to wear off. This is a time frame that is consistent with recent monitoring work on mine abatement work in the U.S. that showed that:

> "A new study based on long-term monitoring data from four sites in the western United States shows that cleanup efforts can allow affected streams to recover to near natural conditions within 10 to 15 years after the start of abatement work."[97]

In this scenario, the visitor and recreation sectors of the Valley County economy as well as the Non-Labor Income sector of the economy are assumed to take a relatively small hit. Those sectors of the Valley County economy, which we have already shown are directly related to the natural amenities of Valley County, will decline by 2 percent during this period. Again, we are not assuming that these sectors of the economy *will* decline by 2 percent if the mine is allowed to begin operations. It is quite possible that the impact could be far larger. What we seek to do here is to show that even if there is a relatively small decline in these sectors of the economy, it will have an impact that rivals the potential benefits that the mine could provide to Valley County. Recall from our earlier discussions that the Visitor and Recreation sectors of the Valley County Economy are about one-third of the total in terms of employment in 2020,[98] and that the

[97] Stephens, T. Long-term monitoring shows successful restoration of mining-polluted streams. UC Santa Cruz News Center. 5.4.2021. https://news.ucsc.edu/2021/05/mine-remediation.html
[98] Headwaters Consulting. Economic Profile System. Valley County Travel and Tourism. 2022.

Non-Labor Income represents about 58 percent of total personal income.[99] We are also not assuming that these sectors of the economy would be growing steadily as they have in the past, with a few exceptions associated with the Great Recession and the Covid Pandemic. We are taking a static view of the year 2020 and looking at the potential impact on the existing economy in Valley County if it did not change for the next 25 years. While this is an unlikely scenario, we are not attempting to accurately project what the Valley County economy will look like in 25 years. We are simply trying to show that a small slowdown in these important sectors can have an outsized impact on the overall county economy. Since both the Visitor and Recreation sectors and the Non-Labor Income in Valley County are likely to continue to grow, while we know that the proposed mine's resident workforce will not, we are confident that this exercise will produce a conservative result.

Remember that the proposed Stibnite mine is projected to directly employ 200 "local" people and that their total pay is projected to be $18.7 million annually.[100] When we look at the combination of the Visitor-Recreation sectors and the Non-Labor Income, it totals $447 million annually. If we assume that the proposed mine will run for the longer of the time periods given (15 years), then it will produce a total of $280.5 million dollars in direct pay to the 200 local workers. The total of the Visitor-Recreation sectors and the Non-Labor Income, over the 25 years that the stigma is associated with the mine, is $11.2 billion. In this scenario, the impact of the mine workers' direct pay is 2.5 percent of the total of the Visitor-Recreation sectors plus the Non-Labor Income. In other words, the benefit of having 200 highly paid miners in Valley County for 15 years could be almost completely wiped out by a 2 percent decline in the Visitor-Recreation sectors plus the Non-Labor Income.

This small modeling exercise should not come as a surprise. Above we discussed economic analysis by Rasker that showed that more than one -third of Valley County income per person was directly tied to the natural amenities in the form of public land, in and around Valley County. In the preceding sections we investigated the large amount of Non-Labor income and how people effectively "vote with their feet" by moving to areas with high quality natural amenities. Remember also that the Non-Labor Income represents a larger portion of the economy than labor income does in Valley County. Finally, it is important to remember the dramatic differences in response by local economies to environmental impacts that we presented in the stigma section of this report. Areas that become stigmatized because of industrial pollution of one kind or another can have vastly different impacts on Visitor and Recreation sectors of their economy, even when the two economies are geographically very close. While it is very likely that the Valley County Visitor and Recreation sectors and the Non-Labor Income sector of the economy are likely to continue to grow and will continue to represent a larger portion of the Valley County economy, there is no growth projected for the SGP work force. The mine plan seeks to remove all the economically feasible minerals found there.

All this evidence points to a basic modeling exercise that is likely to be a conservative estimate of the potential impacts of the proposed mine having some type of spill or toxic release that impacts the Salmon River. What this shows us is that even a very small impact to the Valley County economy, because of the proposed mine polluting the Salmon River, will very likely wipe

[99] Headwaters Consulting. Economic Profile System. Non-Labor Income. 2022.
[100] USDA Forest Service. Stibnite Gold Project DEIS. Page 4.21-22. August 2020.

out all of the benefits that Valley County has been told it would enjoy from the Stibnite mine being developed.

Section IV: Socio-Economic Volatility in Mining Communities

4.1 A Critical Review of the Perpetual Narrative That the Stibnite Mine Will be Good for the Environment and Supportive of a New Sustainable, Low Carbon, Green Economy

There has been a lot of coverage of the new "green economy" in the news recently and the supply chain shortages that have plagued the U.S. and the world since the beginning of the pandemic. To address some of these issues, and because the U.S. must procure many different things, including metals and metal ore concentrates, from countries with whom we are not on very good terms, the U.S. federal government has deemed certain minerals "critical" to our national security.[101] Antimony, a metal that is on that critical list for the Inflation Reduction Act, is one of the metals that could be mined at the proposed Stibnite mine and its production could allow Perpetua Resources a small tax cut, from the Federal Government for their production of antimony. How that plays into the new green economy will be something that we will explore a little later in this part of our report. Also in the Inflation Reduction Act are tax credits that will be given to Americans who purchase electric vehicles that are assembled in the U.S.[102] As many news stories have pointed out recently, the demand for electric vehicles, and the potential tax cut for Americans, far outweighs the current production of those vehicles which makes it "difficult or impossible to take advantage of the tax credits in the short term while manufacturers adjust."[103] As battery technology rapidly evolves and we are all forced to learn a little more about what makes up these new "green" technologies, minerals that formerly merely occupied a part of the periodic table, to which most of us never really paid much attention, are now ever present in the news. For example, lithium is hard to find in the U.S., although there are now many different mines that are vying for permits to mine lithium in the U.S. to help satisfy the demand for it. While there may be a long line of different mining companies trying to begin mining for lithium, the process is long and cumbersome, thanks in part to antiquated mining laws like the 1872 Mining Law that still governs federal mining claims. As states and local municipalities scramble to keep up with the proposed mines and understand where they might fit into the new green economy, the Federal Government is trying to sort out the complicated system that tries to both encourage mining on federal lands as well as make sure that it does not permanently degrade those same lands. In this part of the report, we will attempt to sort out where the U.S. is attempting to go to meet the demands of the new green economy and where the proposed Stibnite mine may fit in.

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[101] Congress. H.R. 5376- Inflation Reduction Act of 2022. 2022. https://www.congress.gov/bill/117th-congress/house-bill/5376/text?q=%7B%22search%22%3A%5B%22inflation+reduction+act%22%2C%22inflation%22%2C%22reduction%22%2C%22act%22%5D%7D&r=1&s=1

[102] Electrification Coalition. Inflation Reduction Act Impact on Electric Vehicles. https://www.electrificationcoalition.org/work/federal-ev-policy/inflation-reduction-act/

[103] Jones Day. The Inflation Reduction Act: Impact on Electric Vehicles and Transportation Industries. August 2022.https://www.jdsupra.com/legalnews/inflation-reduction-act-impact-on-1691338/

4.2 What is Perpetua Proposing to Mine?

While the Perpetua website advertises a variety of claimed benefits that the proposed Stibnite mine will provide to the U.S. and our transition to a green economy,[104] the fact is that the Stibnite mine *is* a gold mine and *not* an antimony mine. This is not meant to be a criticism; it is a simple statement of fact. Many, if not most, mines have other valuable trace metals or secondary objectives that can add real value in making the mine more profitable, and that is certainly the case with the proposed Stibnite mine. We mention this because, if you look at the Perpetua website, you might not know that the proposed Stibnite mine is a gold mine first and foremost. The name, Stibnite *Gold* Project should remind us as to what Perpetua is pursuing. However, much of what Perpetua is talking about is the antimony that they will potentially produce, or the cleanup of environmental damages from past mining, but that is not what the mine is being developed for. If we look at the mine in terms of the value of the resources that Perpetua plans to produce, which we feel is the most sobering assessment possible, then we can see that most of the value of the proposed Stibnite mine is in its potential for gold.[105]

About 11 percent of the total projected value of the mine is antimony, with about 1 percent being silver, and about 89 percent being gold. A different valuation process, carried out by the previous owner, Midas Gold, for its Feasibility Study, placed the value at 94 percent for gold, ¾ of a percent for silver, and about 5.5 percent for antimony.[106] Whatever the percentages are, the point is that this is a gold mine and not an antimony mine. This is important because this is not an antimony mine that is being developed to ease the pressure of the U.S. reliance on other countries for critical metals. This is a gold mine that will produce some antimony. That the U.S. happens to designate antimony, one of fifty critical metals to get the designation, is a coincidence that Perpetua is now trying to take advantage of by highlighting what would otherwise be a small component of its proposed mining operation. We are not denigrating the 'critical' designation that antimony has been given, we are simply pointing out that Perpetua is here for the gold and happy to talk about the antimony.

While it is true that Perpetua would like to produce antimony, it is unclear where the antimony will go once it is concentrated. When the DEIS was written the antimony's destination was not specified.

> "The antimony concentrate would be transported from the mine site for off-site smelting and refining. It is unknown at this time where or how the concentrate from the mine would be processed, and depending on the buyer, it could be processed by any number of companies, in any number of states or foreign countries."[107]

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[104] Perpetua Resources. Antimony is Critical. February 2022. https://perpetuaresources.com/wp-content/uploads/February-2022-Antimony-Its-Critical.pdf and Perpetua Resources. Antimony. April 2021. https://perpetuaresources.com/wp-content/uploads/Antimony-White-Paper.pdf

[105] USDA Forest Service. Stibnite Gold Project DEIS. August 2020. Pages 4.21-21. 2021.

[106] Midas Gold. Midas Gold Completes Positive Feasibility Study for the Stibnite Gold Project, Idaho. 12.22.2022. https://midasgoldcorp.com/investors/news/2020/midas-gold-completes-positive-feasibility-study-for-the-stibnite-gold-project-idaho/

[107] USDA Forest Service. Stibnite Gold Project DEIS. August 2020. Pages 4.4-9. 2021.

It would seem then that this source of antimony will not necessarily secure America's green energy future after all since its destination is unknown. Or at least it was unknown when the DEIS was published. Since that time, "Perpetua Resources entered into a partnership to supply a portion of our antimony production to support the commercialization of Ambri's liquid metal battery for large-scale storage of clean energy."[108] Here again, we are left wondering what "a portion of our antimony" really means and how much of the critical metal will stay within the U.S. We are not the only people that are questioning this claim about the antimony that Perpetua wants to produce. In an opinion piece in the Idaho Statesman in September of 2022, Will Tiedemann[109] asks many of the same questions that we do, taking it one step further stating:

> "First, Perpetua has not yet secured a domestic refinery to process the SGP antimony ore into a finished product of usable grade for battery applications. To our knowledge, no domestic refinery currently has the capability or capacity to do so. Instead, international refineries, likely in either Mexico or Oman, will have to be contracted to process SGP's antimony ore. By utilizing international refineries, it remains unknown whether Perpetua will retain ownership of their processed antinomy ore and to whom it ultimately will be sold."[110]

The only antimony processing facility in the U.S., is in Montana and that facility is "in a sold-out condition"[111] meaning that they cannot process any of Stibnite's antimony. Even if Ambri could process the antimony in the U.S., they do not, as of yet, have a commercial scale battery that is available for commercial use.[112] What the antimony from Stibnite will *not do* is go into the electric vehicles that we have heard so much about recently and will not be associated with the tax cuts that citizens can get from purchasing an electric vehicle or the battery related production location specifications of the Inflation Reduction Act. What has been laid out in the DEIS and by Perpetua, is that a small component of the total value of the proposed mine (11 percent) will be antimony. Of that small component, an unknown amount will go to a U.S. based battery manufacturer to produce "low-cost, large-scale batteries",[113] that have no current commercially available products, and the destination of the rest of the antimony is unknown and could go to "any number of states or foreign countries."[114] Again, the point that we are trying to raise here, is that Perpetua wants to run a gold mine but is happy to talk about the very small volume of antimony that *might be available* to support American efforts to reduce carbon emissions.

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[108] Perpetua Resources. Antimony: Powering our Clean Energy Future. https://perpetuaresources.com/antimony/

[109] A Conservation Associate of the Idaho Conservation League.

[110] Tiedemann, W. A mine to provide a rare mineral for batteries? Or for gold to make the rich richer.. Idaho Statesman. 9.12.2022. https://www.idahostatesman.com/opinion/readers-opinion/article265465541.html

[111] USAC. Home. 2022. https://www.usantimony.com/#:~:text=*Our%20antimony%20smelter%20and%20precious,where%20the%20plant%20is%20located.

[112] Ambri. Ambri Announces Its Innovation Hub - Expanding Manufacturing Capacity with New Facility in Massachusetts, a Major Milestone in Its Commercialization. 6.2.2022. https://www.prnewswire.com/news-releases/ambri-announces-its-innovation-hub--expanding-manufacturing-capacity-with-new-facility-in-massachusetts-a-major-milestone-in-its-commercialization-301560038.html

[113] Perpetua Resources. Antimony: Powering our Clean Energy Future. https://perpetuaresources.com/antimony/

[114] USDA Forest Service. Stibnite Gold Project DEIS. August 2020. Pages 4.4-9. 2021.

4.3 Antiquated mining laws

As the country attempts to wean itself from the critical metals that we procure from rather dubious sources, there has been a rather strong pull to look at the permitting process for mines in the U.S. On the 150th anniversary of the most notorious of U.S. mining laws, the General Mining Law of 1872,[115] the Biden administration convened an interagency working group (IWG) to review the antiquated law.

> "This meeting was the first external engagement of the Department of Interior-led Interagency Working Group on Mining Regulations, Laws, and Permitting, which is charged with providing recommendations to Congress on how to reform the mining law to ensure new production meets strong environmental standards throughout the lifecycle of the project, ensure meaningful community consultation and consultation with Tribal nations, and reduce the time, cost, and risk of mine permitting. "[116]

Anyone that has been involved in the mine permitting process can see the immediate need for this type of reform. Likely anyone that takes the time to critically read this report will be able to agree with this sentiment also. This is reform that was asked for by the Government Accountability Office in 1989.[117] An example of part of the 1872 law that needs reform, is the money, or lack thereof, that is paid to the Federal Government for a mining claim. Currently, somewhere between $2.50 and $5 per acre is paid for mining claims on federal land depending on whether it is a "lode or placer claim."[118] The IWG is made up of experts from all different fields and has a list of objectives too long to quote in this report. What is clear from their goals is that they want to make sure that the U.S. gets a fair return for allowing mining to take place on its land, that the natural environment will be looked out for during the construction, operation, and closure of mines, that the land be restored, the environmental problems mitigated, and that the currently convoluted process of mine permitting be sped up. We bring this up here because all of this is needed, in this specific mine, although it is unlikely to help in this case. Any objective viewer can see that the U.S. needs to be able to source some of its critical minerals from the U.S., but we need to be able to do so in a fair and environmentally responsible way. That is the rub in the argument for the proposed Stibnite mine. If they were going after critical minerals that would help the U.S. effort to transition to a greener economy, and if the mine were permitted in a way that could ensure that the water, land, and environment would be looked after during the entire mining process and once the mine is gone, as the revision of the antiquated 1872 Mining Law promises, then perhaps this mine would be worth pursuing. That question, however, is not one that we have been asked to answer. What we are trying to point out is that the Federal Government is trying to reform the mining laws so that these questions are not so hard to

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[115] BLM. About mining and minerals. https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals/about

[116] The Biden Administration. Readout of the White House's First Stakeholder Convening on Mining Reform. 5.11.2022. https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/11/readout-of-the-white-houses-first-stakeholder-convening-on-mining-reform/#:~:text=The%20General%20Mining%20Law%20of,it%20to%20promote%20westward%20expansion.

[117] GAO. Federal Land Management: The Mining Law of 1872 Needs Revision**. 3-10-1989.** https://www.gao.gov/products/rced-89-72

[118]Penn State College of Earth and Mineral Sciences. Lesson 2.3: The General Mining Law of 1872 (as amended). https://www.e-education.psu.edu/geog000/node/8

answer, and if the answer is that the mine should be permitted, then it is done in a much safer and more expedient fashion.

In conclusion, we find that the proposed Stibnite mine is a gold mine with the value of the gold representing at least eight times that of antimony. The antimony, although designated a critical metal by the Biden administration, will largely go to an unknown refinery, likely outside of the U.S. The antimony that stays within the U.S., which is an unspecified fraction, will be sold to a company that wants to produce industrial scale batteries and not, as many will assume, batteries for the electric cars. The mining laws within the U.S. are antiquated and complicated and put far too large of a burden on local areas that will host the mines. Because of this, the Federal Government is in the process of overhauling the 1872 Mining Law. It is the hope of the Biden administration that when that law is revised, it will allow local communities, like Valley County, to make sure that the mines are responsibly developed to ensure that the U.S. can source the critical metals that it needs while also ensuring that the local environment is protected, and the mining companies fairly compensate U.S. citizens for the leasing of public land and removal of valuable minerals. While it is likely that the mining laws will not be reformed in time for the decisions that need to be made with respect to the proposed Stibnite mine, it helps to highlight the complicated nature of deciding to open a metal mine and what the impacts, short and long term, will be on local communities.

4.4 Volatility in the Metal Mining Market

Metal mining is notoriously volatile, and gold is a charter member of the club of volatility. In the last 50 years or so, the price of gold has fluctuated from a high, in real 2022 dollars, of a little more than $2,500 per ounce in January of 1980, to a low of $264 per ounce in August of 1970. Put another way, the price of gold has fluctuated by almost an order of magnitude in the last 50 plus years. Lest one think that we are cherry picking the data, and it is only low at the beginning of the last fifty years which was shortly after the United States gave up on the Gold Standard, in April of 2001, gold fell to $430 per ounce. For a more complete view of things, see figure 12 below.

Figure 12.

Source: CPI is From the Federal Reserve Economic Data (FRED) and is based on CPI for all urban consumers: all items. The gold price is from LBMA Precious Metal Prices. https://www.lbma.org.uk/prices-and-data/precious-metal-prices#/

Keeping the figure above in mind, even if we only look at the volatility of the last 5 years, we can see that there was a high of $2208 per ounce in August of 2020 and a low of $1382 per ounce in September of 2018. The difference between the two, separated by less than two years, is $826, which is 60 percent of the lower, September 2018 value. Anyone with a basic understanding of business would be able to tell you that if your business loses 83 percent of its value over a two-year period, as was the case between 2000 and 2018, that the business is going to have trouble surviving. Of course, the reciprocal can happen also. Perhaps you would rather focus on the fact that the same hypothetical business increased its value by more than a factor of 5 over a ten-year period, between April 2001 and September 2011? For the point that we are making, both are a symptom of the same issue, and that is the volatility of international metal markets. In this case it is the international gold market, but the same can be said about most of the metal markets. Metal markets are notoriously volatile.

In this case, when we are talking about the potential to have the Stibnite mine located in Valley County, we are then talking about the mine's ability to continuously operate in the face of the roiling seas of the international metal market. If we look back to Figure 12 again, we can see that the horizontal portion of each of the gridded boxes in the background of the figure can be representative of the 5 years. Since the mine plans to operate for 12- 15 years, the lifetime of the mine can then be thought of as three grid squares.[119]There are a couple of periods where one might be able to argue that there was continuous growth in the gold market, but for most 15-year periods, there is rather serious volatility. In the face of such volatility, there are only a couple of things that can be done. If the price of the gold is increasing, then you might well

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attempt to increase your output. If the price is decreasing, then you will likely reduce your output or idle your mine. Now, clearly this will not happen if the price of gold changes by some very small amount, as it does daily. However, if, over a 3-year period, the value of the gold that you produced dropped by 63 percent, as it did between 1980 and 1982, then you would be very likely to idle your operation in hopes of a speedy market recovery.

The reason that this is important to consider, is that metal mines that are idled do not pay the people that work in the mines. If those people recently moved to your local community, as the DEIS and Perpetua assume, then your community will have a lot of newly unemployed people in it. While we have shown that the fiscal contributions to the local tax base are relatively small, totaling $300,000 per year while the mine is operating, if Valley County comes to depend on this revenue, then a closed mine would be an added cost that the County would have to shoulder. If we assume that the multipliers are correct, as discussed in section 2 of this report, then there will be six tenths of a job created for every direct job at the mine. If Perpetua will hire 200 people to work in their mine, this would then be 120 local people who would be indirectly working for the mine in the local area. If the mine were to idle, for example because the price of gold drops dramatically, then the local area would have 320 workers that are now unemployed. As we have pointed out repeatedly, we believe that most of the workers will be living in the greater Boise area or the U.S. in general, but if you believe Perpetua, then many of these people will live in Valley County. It is worth at least considering the idea that hundreds of people would be laid off as the mine is idled due to low commodity prices.

However, perhaps the larger issue, and one that incorporates the ups and downs of the international metal market, is the economic wellbeing of mining dependent communities in the U.S. over a longer period.

4.5 Taking a Larger View of Things: Mining Dependence and Economic Well Being

Mining has long been described as having a boom followed by a bust. The figure on gold prices above clearly shows at least 3 large boom bust periods and a host of smaller perturbations in the price over the last 50 years. When we think of the impact of those commodity prices on a mine, those booms and busts are generally, but not always, directly related to production. The mine produces as much as possible when the price is high and slows down production as much as possible when the price is low. With some mines, for example, the production of natural gas in the unconventional wells across the U.S. in the last 20 years, this has sometimes meant producing at a loss. In those cases, it may be quite hard to idle a well once it is tapped and there may be a shortened timeline associated with the wells as they are interconnected with other wells. In those cases, the extraction companies may be forced to produce at a loss to recover as much of their costs as they can. However, gold mines generally do not operate in this fashion. In some cases, it is that the resource in question has played out, but often it is because the value of the commodity drops or rises significantly. Often, mines can come back online when the commodity prices rebound, but there may be a cost associated with this price volatility to those communities that have mines in them.

While mining dependent communities, when they are mining, often have higher than average wages and salaries associated with that mining, they also live in fear of the next drop in commodity prices. One could imagine being a County Commissioner and being reticent to

invest in schools for the children of miners that may not be around in the next five to ten years. The same can be said about most shared public infrastructure. Things like sewers, hospitals, roads, the size of the police and fire departments etc. All those public services are paid for through taxes that are largely collected by local governments, and they are directly proportional to the number of taxpayers that they are collecting from. They are sized and staffed based on the expected load or population that will be using them. While there might be an immediate need to expand some of those services while a mine is in operation, and there are miners to help shoulder the additional burden that they put on a municipality, when those miners go, the local governments may be stuck paying for those upgrades or increases in services that they no longer have the same demand for. There is also the very real possibility that when the mine leaves, the community and the natural environment are in worse shape than before they came, and there is a real and sustained negative impact on the local community indefinitely. This is exactly what has happened to many different mining communities and whole mining regions across the U.S. The other option that a local municipality has, is to not pay for the upgrades or increases and deal with an increased demand for the same local service, while the mine is operating. Local communities must decide if there is enough time to pay for the investment that is necessary to accommodate for the increased use of the community infrastructure. This can be the tradeoff or quandary associated with the mining industry in a small community. There is a real possibility to have local people receive higher than average pay, but that pay will be dependent on international metal markets and the resources that are available locally to be mined.

There are clear examples of historic mining districts that have not fared very well, even though they created immense wealth in the time that they operated, and all we need to do is look at other mining dependent areas in the United States for examples of what has happened in the past. Before we present a few of the larger studies that have looked at these topics, if you have traveled to some of the classic examples of mining dependence in the U.S. cities like Butte, MT., then you will understand what the outcome looks like. Butte was once described as the “Richest Hill on Earth” and is now a struggling hard scrabble town that has, as its chief point of reference, the monstrous Berkeley Pit which is the remains of an open pit copper mine that dominates historic Butte. There is the Copper Triangle in Arizona, the Appalachian Coal fields of the east coast of the U.S., the Bakken oil shale boom of North Dakota and Montana, and on and on. In fact, there are whole states that have had their economic hopes pinned on resource extraction and have recently felt the pinch of that dependence. The state of Alaska, long famous for giving every resident a “dividend” from the production of oil on the North Slope of Alaska, now finds itself in a financial crisis. Alaska, now infamous for its dependence on different commodities, has chased furs, gold, military infrastructure from World War II, and now oil to pay little to no property or income taxes. Recently however, Alaska, in the face of flagging oil production and a drop in the price of oil, has found itself nearly bankrupt having pinned almost its entire fiscal health on the taxes associated with the production of oil.

> “The national economic expansion from 2009 to 2020 was the longest recorded in the history of the United States. The unemployment rate fell dramatically, and real gross domestic product (GDP) steadily increased. However, many petroleum-producing states experienced local recessions during this period because of declining oil prices. One of these states was Alaska, which was in a recession from March 2015 to April

> 2018…. Falling oil prices also hurt the state government, which relied on petroleum (oil and gas) for 92 percent of its total revenue in 2011."[120]

Clearly Valley County has not pinned 92 percent of the total revenue that it collects on the proposed Stibnite mine, but the comparison is instructive. Depending on a commodity, whose value is linked to the international commodity market, is necessarily betting that the market will remain strong over the time that the governments or communities are most dependent on it. In the case of Alaska, this worked well when Alaska was producing large volumes of oil and the price of oil was relatively strong. Recently, it has not worked well for them, as their oil fields have been depleted, their production went down dramatically, and the price of oil began to fluctuate more widely. There is a large and growing body of literature that looks at the impact of mining on the socioeconomics of different communities. Freudenburg, in 2003, did a meta-analysis of all the available literature related to mining and local economic well-being: "In this article, we assemble literally all of the relevant quantitative findings on mining that we have been able to identify in published and/or technical literature from the United States."

> "…in the case of poverty or unemployment rates—as well as for the overall body of findings—the results are consistently and significantly negative, whether the neutral/indeterminate findings are combined with negative ones or omitted from the equations altogether. Until or unless future studies produce dramatically different findings, there appears to be no scientific basis for accepting the widespread, "obvious" assumption that mining will lead to economic improvement."[121]

Although 2003 was now almost two decades ago, the results certainly still appear to hold true. Given the evidence from Freudenburg, it would appear prudent to have as diversified an economy as possible, and not look to mining for the "obvious" assumption that mining will lead to economic improvement, since their analysis showed quite the opposite. In the context of the Valley County economy, which is relatively diversified and is no longer dependent on the extractive industries, it would be wise to make sure that Valley County stays diversified. In the context of the necessary upgrades that may be necessary to accommodate for the increased presence of miners associated with the proposed mine, it would be prudent to think long and hard about what investments will be made to accommodate the demands to extend government services for them, since there is no obvious economic improvement that will come with the mine, at least empirically. When looking at a very large geographic area, that of Appalachia, that has been dominated by the coal industry for much of the last 100 years, it appears that mining dependent counties show slowed economic growth and less educational attainment.

> "…the coal industry provides incentives for less educational attainment, and that lower educational attainment levels in coal-producing counties explain part of their lower growth rates."
>
> And

[120] U.S. Bureau of Labor Statistics. Oil, budgets, migration, and retirees: Alaska's 2015-18 recession. https://www.bls.gov/opub/mlr/2022/article/oil-budgets-migration-and-retirees-alaskas-2015-18-recession.htm

[121] Freudenburg, W. et al. Mining the Data: Analyzing the Economic Implications of Mining for Nonmetropolitan Regions. Sociological Inquiry. 2003.

> "No doubt, coal mining provides opportunities for relatively high-wage employment in the region, but its effect on prosperity appears to be negative in the longer run. Our results suggest that a significant portion of that negative effect may be attributed to coal-industry disincentives to the accumulation and regional retention of human capital."[122]

According to the quote above, from Douglas et al., coal mining is associated with lower educational attainment for the people of Appalachia as well as a slowed growth rate. The "natural bounty" of the earth cannot be assumed to be a gift that all communities should receive with open arms. One could argue that gold mining in Valley County, ID. is a far cry from Appalachia, however the fact remains that communities that are faced with a decision on whether to allow mining on their local lands would do well to collect as much evidence as they can of the experiences of others. The potential benefits are well known, and Perpetua will tell you exactly what they are. All one need do is look at their website or look at the socioeconomic section of the DEIS, which was based on work that Midas Gold and Perpetua paid to have done. Here we will not seek to affirm or deny the validity of that work. What we are seeking to do is to say that we agree that the jobs that the miners will get will pay them well above average wages, but there will also be *costs* associated with having the mine in Valley County, and those costs have not been explored. Here we are attempting to present some of the economic evidence of the impact of mining on the communities that live with those mines. We have already gone over some of the potential "maladies" that mining related communities can face. In that literature, much of the impact of a mine on a local community is described through the lens of the miners that move into the local area. Those miners are predominantly male, young, well paid, don't necessarily have ties to the local community or family with them, and work odd hours, for example two weeks on and two weeks off. All these things may contribute to them not fitting in with a local community as well as more traditional in-migrants might. Social scientists have looked at things like drug related mortality rates across all the U.S. to try and figure out what factors may play important roles in those deaths. A recent study tried to control for all the possible different factors that could contribute to drug related death in the U.S. and found that the single largest contributing factor was whether the community was dependent on mining.

> "The average county-level age-adjusted drug-related mortality rate was 16.6 deaths per 100,000 population (2006–2015), but there were substantial geographic disparities in rates. Controlling for county demographic characteristics, average mortality rates were significantly higher in counties with greater economic and family distress and in counties economically dependent on mining."[123]

This rather remarkable finding, found that mining was associated with a greater than 13 percent increase in "age adjusted mortality rate." This was by far the largest increase of the labor markets that were analyzed and was about a half a percentage point behind the largest age adjusted mortality rate increase which was associated with "family distress." We are not social workers or sociologists who are trying to tell you that if the proposed Stibnite mine goes in there will then be massive increases in drug overdoses. What we are trying to point out is that there is

[122] Douglas, S. and Walker, A. Coal Mining and the Resource Curse in the Eastern United States. Journal of Regional Science. 2016.
[123] Monnat, S. Factors Associated with County-Level Differences in U.S. Drug-Related Mortality Rates. American Journal of Preventive Medicine. 2018.

a very clear link between mining and the communities associated with the mines. Mines are generally in smaller towns in rural portions of the U.S. and those places may have a harder time dealing with some of the negative impacts that come with the mine. As Perpetua has correctly shown, those people who reside in Valley County *and* have mining jobs will have significantly higher than average pay when compared to other Valley County residents. This is known. What is unknown, and what we are trying to lay out, is what some of the costs associated with having the Stibnite mine in Valley County will be. From the economic and social science literature, there will be costs in the form of retarded economic growth, increased pressure on services that Valley County provides, reduced educational attainment, and increased negative social interactions as a transient workforce tries to integrate into the local community. What we have also shown is that Valley County's economy is currently thriving and the reason that the economy is so robust, in large part, is because of the natural amenities that Valley County has. The possibility of short-term gain associated with the proposed mine should be weighed against the potential for long term harm to an otherwise thriving economy.

Bibliography

Ambri. Ambri Announces Its Innovation Hub - Expanding Manufacturing Capacity with New Facility in Massachusetts, a Major Milestone in Its Commercialization. 6.2.2022. https://www.prnewswire.com/news-releases/ambri-announces-its-innovation-hub--expanding-manufacturing-capacity-with-new-facility-in-massachusetts-a-major-milestone-in-its-commercialization-301560038.html

Archbold, C. Policing the Patch: And Examination of the Impact of the Oil Boom on Small Town Policing and Crime in Western North Dakota. *Police Quarterly*. 2014.

Berger, J. Sexual Predators, Energy Development, and Conservation in Greater Yellowstone. *Conservation Biology* 24(3):891-896. 2010.

The Biden Administration. Readout of the White House's First Stakeholder Convening on Mining Reform. 5.11.2022. https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/11/readout-of-the-white-houses-first-stakeholder-convening-on-mining-reform/#:~:text=The%20General%20Mining%20Law%20of,it%20to%20promote%20westward%20expansion

BLM. About mining and minerals. https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals/about

Bowker, L., and Chambers, D., 2015. The risk, public liability, & economics of tailings storage facility failures. http://www.csp2.org/files/reports/Bowker%20%26%20Chambers%20-%20Risk-Public%20Liability-Economics%20of%20Tailings%20Storage%20Facility%20Failures%20%E2%80%93%2023Jul15.pdf

Bush, M. Substance use and Substance use Disorder by Industry. The CBHSQ Report from the National Survey on Drug Use and Health. April 2015.

Carrington, K. The resource boom's underbelly: Criminological impacts of mining development. Australian and New Zealand Journal of Criminology. 2011.

Carrington, Kerry & Pereira, Margaret (2011) Assessing the social impacts of the resources boom on rural communities, Rural Society, 21:1, 2-20, DOI: https://www.researchgate.net/publication/271150686_Assessing_the_social_impacts_of_the_resources_boom_on_rural_communities/link/563011b908aefac54d8f12c3/download

Center for Science in Public Participation. Tailings Dam Failures 1915-2016. http://www.csp2.org/files/Tailings%20Dam%20Failures%201915-2016-4%20.xlsx

Congress. H.R. 5376- Inflation Reduction Act of 2022. 2022. https://www.congress.gov/bill/117th-congress/house-bill/5376/text?q=%7B%22search%22%3A%5B%22inflation+reduction+act%22%2C%22inflation%22%2C%22reduction%22%2C%22act%22%5D%7D&r=1&s=1

Colocousis, C. “It Was Tourism Repellent, That’s What We Were Spraying”: Natural Amenities, Environmental Stigma, and Redevelopment in a Postindustrial Mill Town. Sociological Forum. 2012.

Cromartie, J. and Nelson, P. Baby Boom Migration and Its Impact on Rural America. USDA-ERS Report No. 79. Washington, DC: USDA Economic Research Service. 2009. https://permanent.access.gpo.gov/lps125026/ERR79.pdf

Douglas, S. and Walker, A. Coal Mining and the Resource Curse in the Eastern United States. Journal of Regional Science. 2016

Electrification Coalition. Inflation Reduction Act Impact on Electric Vehicles. https://www.electrificationcoalition.org/work/federal-ev-policy/inflation-reduction-act/

FRED. Unemployment Rate in Valley County, ID. Sep. 2022.

FRED. CPI. All Urban Consumers: All Items. 2022.

Freudenburg, W. et al. Mining the Data: Analyzing the Economic Implications of Mining for Nonmetropolitan Regions. Sociological Inquiry. 2003.

GAO. Federal Land Management: The Mining Law of 1872 Needs Revision**. 3-10-1989.** https://www.gao.gov/products/rced-89-72

Garber-Yonts, Brian E. The Economics of Amenities and Migration in the Pacific Northwest: Review of Selected Literature with Implications for National Forest Management. 2004. United States Department of Agriculture, Forest Service, Pacific Northwest Research Station, General Technical Report, PNW-GTR-617, October 2004.

Gibson, G. Canada’s Resilient North: The Impact of Mining on Aboriginal Communities. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health* 3(1).

Gould, N. Understanding the Language of Seismic Risk Analysis. Expert Commentary from IRMI. 2003. https://www.irmi.com/articles/expert-commentary/understanding-the-language-of-seismic-risk-analysis

Hasn, M. at et al. North Carolina Highway Cost Allocation and Revenue Attribution Study. North Carolina Department of Transportation. NCDOT Project 2019-14. September 2021.

Headwaters Consulting. Economic Profile System.

Headwaters Economics. Economy Surprisingly Dependent on Non-Labor Income. 2017. https://headwaterseconomics.org/economic-development/trends-performance/economy-surprisingly-dependent-on-non-labor-income/.

Headwater. Recreation Counties Attracting New Residents and Higher Income. Page 1. January 2019.

Idaho ED Trends. http://www.idahoedtrends.org/schools/173?question_id=2

Idaho State Tax Commission. Estimated Property Tax. https://tax.idaho.gov/i-1072.cfm

JA and Kathryn Albertsons Foundation. Five questions about education funding in Idaho. Page 22. https://dontfailidaho.org/pdf/JKAF_Rethink-Id-Ed-Funding.pdf

Jones Day. The Inflation Reduction Act: Impact on Electric Vehicles and Transportation Industries. August 2022.https://www.jdsupra.com/legalnews/inflation-reduction-act-impact-on-1691338/

Komarek, T. Crime and natural resource booms: evidence from unconventional natural gas production. *Annals of Regional Science*. 2017.

LBMA Precious Metal Prices. https://www.lbma.org.uk/prices-and-data/precious-metal-prices#/

Lubetkin, S. Review of the Transportation Corridor Risks of Hazardous Material Spills in the Proposed Stibnite Gold Project Draft Environmental Impact Statement. 10.27.2020.

McCall in Motion: 2018 McCall Area Comprehensive Plan. 2018.

Midas Gold. Midas Gold Completes Positive Feasibility Study for the Stibnite Gold Project, Idaho. 12.22.2022. https://midasgoldcorp.com/investors/news/2020/midas-gold-completes-positive-feasibility-study-for-the-stibnite-gold-project-idaho/

Mitchell, V. History of the Stibnite Mining Area, Valley County, Idaho. Staff Report 00-3. Idaho Geological Survey, University of Idaho. April 2000 https://www.idahogeology.org/pub/Staff_Reports/2000/SR-00-3V1.pdf .

Monnat, S. Factors Associated with County-Level Differences in U.S. Drug-Related Mortality Rates. American Journal of Preventive Medicine. 2018.

Niemi, E. and Whitelaw, E. Assessing economic tradeoffs in forest management. Gen Tech. Rep. PNW-GTR-403. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 1999.

Parkins, J. Linking social structure, fragmentation, and substance abuse in a resource-based community. *Community work and family*. 2011.

Panhandle Alliance for Education. How Idaho Schools are Funded. https://panhandlealliance.org/how-idaho-schools-are-funded/

Penn State College of Earth and Mineral Sciences. Lesson 2.3: The General Mining Law of 1872 (as amended). https://www.e-education.psu.edu/geog000/node/8

Perpetua Resources. Antimony. April 2021. https://perpetuaresources.com/wp-content/uploads/Antimony-White-Paper.pdf

Perpetua Resources. Antimony is Critical. February 2022. https://perpetuaresources.com/wp-content/uploads/February-2022-Antimony-Its-Critical.pdf

Perpetua Resources. Antimony: Powering our Clean Energy Future. https://perpetuaresources.com/antimony/

Piciullo, L. et al. A new look at the statistics of tailings dam failures. Engineering Geology. 2022.

Skouloudis, A. et al. Industrial pollution, spatial stigma and economic decline: the case of the Aspos river basin through the lens of local small business owners. Environmental Planning & Management. 2016.

State of Idaho. Title 63: Revenue and Taxation, Chapter 36, Sales Tax. https://legislature.idaho.gov/statutesrules/idstat/title63/t63ch36/sect63-3638/

Stephens, T. Long-term monitoring shows successful restoration of mining-polluted streams. UC Santa Cruz News Center. 5.4.2021. https://news.ucsc.edu/2021/05/mine-remediation.html

Tiedemann, W. A mine to provide a rare mineral for batteries? Or for gold to make the rich richer.. Idaho Statesman. 9.12.2022. https://www.idahostatesman.com/opinion/readers-opinion/article265465541.html

Thorington, J. Idaho again ranks last in education spending per student. Idaho Post Register. 5-11-2022. https://www.postregister.com/news/local/idaho-again-ranks-last-in-education-spending-per-student/article_4035d895-223a-58ba-8f36-796c3aa47d6e.html#:~:text=According%20to%20the%20report%2C%20Idaho,the%20national%20average%20of%20%2414%2C360.

University of Idaho. Idaho's Forests and Forest Products Industry. Policy Analysis Group. August 2019.

USAC. Home. 2022. https://www.usantimony.com/#:~:text=*Our%20antimony%20smelter%20and%20precious,where%20the%20plant%20is%20located.

U.S. BEA. CAEMP 25N Total Full-Time and Part-Time Employment by NAICS Industry Economic Profile. Employment (number of jobs). GeoFips 16085, GeoName: Valley, ID. 2020.

U.S. BEA. CAINC30 Economic Profile. GeoFips 16085. Valley County, Idaho.

U.S. BEA. Regional Economic Accounts, reported by Headwaters Economics' Economic Profile System, Socioeconomic Trends. 2021.

U.S. Bureau of Labor Statistics. Oil, budgets, migration, and retirees: Alaska's 2015-18 recession. https://www.bls.gov/opub/mlr/2022/article/oil-budgets-migration-and-retirees-alaskas-2015-18-recession.htm

U.S. Census. American Community Survey. 5 year estimates. Valley County.

USDA Forest Service. Stibnite Gold Project DEIS. August 2020.

USDA Forest Service. Stibnite Gold Project: Social and Economic Conditions Specialist Report. August 2022

U.S. EPA. An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA 910-R-14-001A-C, ES, 2014. CHAPTER 9. TAILINGS DAM FAILURE

Valley County. Proposed Valley County Fiscal Year 2021 Budget. August 2020. https://www.co.valley.id.us/media/Departments/Clerk/Budgets_Audits/Budget/FY2021/Publish-Revenue-Fiscal-Year-2021.pdf

Valley County, Idaho. Report on Audited Basic Financial Statements and Supplemental Information. 2019. Page 7. https://www.co.valley.id.us/media/Departments/Clerk/Budgets_Audits/Audits/2019-Valley-County-Audit-1.pdf

HAPPY NEW YEAR

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Truck drivers prefer downtown over bypass

Steep grades, slick conditions cited

BY DREW DODSON
The Star-News

Yael Oren cringes each time she watches a loaded log truck drive by on Idaho 55 outside the window of her office in downtown McCall.

Oren, an employee of FIG Financial Insurance Group at 1005 N. 3rd St., worries that loaded log trucks driving toward a sharp turn in downtown McCall are "an accident waiting to happen."

"We hear the brakes screaming," Oren said. "I don't think it's appropriate due to the amount of traffic and pedestrians."

Many of the log trucks Oren sees daily are coming from a 390-acre timber sale on Eastside Drive that was recently sold by the Idaho Department of Lands to Idaho Forest Group.

The $1.3-million sale will produce about 1,000 truckloads of logs before work is completed next summer, said Mac Lefebvre, a procurement forester for the Coeur d'Alene lumber company. So far, the company has been averaging about eight truckloads per day from the sale, but that number is expected to double to about 16 trips per day in January.

The company allows truck drivers to choose between two routes through McCall while driving logs to sawmills south of New Meadows on U.S. 95 and in Grangeville.

One route takes drivers down Lick Creek Road, Davis Avenue, Wooley Avenue and Railroad Avenue before turning right onto Third Steet (Idaho 55) in downtown McCall.

See **LOG TRUCK**, *Page A4*

Courtesy/Suzan Ahrens

A logging truck turns *right from Railroad Avenue onto Third Street (Idaho 55) last week in downtown McCall.*

Log truck

(Continued from Page A1)

The other route follows Lick Creek Road and Spring Mountain Boulevard to Deinhard Lane and Boydstun Street, two city roads that serve an unofficial Idaho 55 bypass of downtown McCall.

McCall city manager Anette Spickard has requested that the bypass route be used for all IDL logging projects, but the city cannot ban trucks in downtown McCall because Third Street is owned by the Idaho Transportation Department.

"It is not appropriate for us, nor do we have the legal authority, to restrict the legal use of a state highway," Sharla Arledge, an IDL spokesperson, said of the city's request.

Most of the trucks from the Eastside Drive timber sale seem to be opting for the downtown right over the bypass, according to Oren and other business owners in the area.

"I see the logging trucks frequently, but I've never seen them cause an issue with traffic backups or pedestrians," said Claire Holcomb, who works the front desk at Hotel McCall.

Rebekah McHolm also sees the passing log trucks daily from the windows of the Payette Dream Coffee House and Diner, which she has owned since 2017. McHolm does not object to the trucks passing through downtown as long as they follow the speed limit, but questioned why the route seems to be preferred by truck drivers.

"If I was the driver, I would not want to go through a congested, high-density pedestrian area where people and kids might step out from between cars," she said.

Courtesy/Suzan Ahrens

A logging truck navigates *the sharp turn on Third Street (Idaho 55) last week in downtown McCall.*

For truck drivers, the choice between the two routes often comes down to picking the lesser of two evils, said Dan Green, owner and operator of D&D Green Trucking of New Meadows.

"I don't like going through McCall, period, no matter which way I go," said Green, who has driven log trucks in the area for 40 years.

Green is not working the Eastside Drive timber sale but said he would drive through downtown McCall if he was. The downtown route has more traffic and pedestrians, but the bypass route has steeper grades that can be dangerous when icy, Green said.

It can also be hard for loaded trucks to turn left onto Idaho 55 from Boydstun Street due to traffic. Log trucks can more easily navigate tight turns in downtown McCall because the trailers are designed to be able to get through windy logging roads in the forest.

"We can pretty much wiggle around whatever," he said, adding that he does not consider turns in downtown McCall as "tight."

Overall, the 1,000 log truck trips through McCall are expected to produce about 5.2 million board feet of lumber at sawmills near New Meadows and in Grangeville, Lefebvre said.

Logging will thin about 167 acres across from the Tamarack Bay Condominiums and 192 acres near the intersection of Eastside Drive and Lick Creek Road.

About 31 acres near a segment of the Crestline Trail, an 11-mile out-and-back trail through mountains flanking the east side of Payette Lake, will be clearcut and replanted.

The sale will mainly remove trees damaged by the Douglas-fir beetle, the spruce budworm and other insects in an area last logged about 20 years ago, Arledge said. Removing the damaged trees will reduce the risk of a catastrophic wildfire that could threaten nearby homes.

Logging will primarily happen Monday through Friday, but could also happen occasionally on weekends, Lefebvre said. Flaggers will be used when logging close to Eastside Drive to protect people from driving into dangerous timber fall zones.

Most of the money from the $1.3-million sale will go to Idaho State University and Lewis and Clark State College, which are among the beneficiaries of state endowment land, Arledge said.

City of McCall IDAHO

MEMORANDUM

TO: McCall City Council

FROM: Erin Greaves, Communications Manager

DATE: December 7, 2019

RE: Stibnite Gold Lecture Series Recap

Dear Council,

Per previous guidance from Council and direction from the City Manager, Communications developed a coverage plan to educate the public on the proposed Stibnite Mine Midas Gold Project. The goal of the plan aimed to provide the public with multiple ways to educate themselves on the proposed Stibnite mining project by Midas Gold in Valley County Idaho, east of the community of Yellow Pine near the East Fork South Fork Salmon River.

The plan included an interactive web portal, a link for the public to submit questions and comments as well as an educational series.

- The web portal found at https://www.mccall.id.us/stibnite-project-by-midas-gold is still active and contains resource links to the project over view, participating agencies, interesting articles, relevant documents and other valuable education links.
- A comment link was created for the public to submit inquiries, make comments and participate with the upcoming meeting series.

The McCall Public Library kicked off the educational series by hosting a Doing Democracy event on, September 18th in which attendees discussed the recent draft Community Agreement.

Notable guests included: Midas Gold Representatives; McCall's City Manager and McCall Councilman Bob Giles who were both assigned by Council to work cooperatively with Midas Gold on the Community Agreement draft.

Attendees: Totaled **50 people**

Guests broke up into groups and approached the following questions for discussion and brainstorming.

- Should the City of McCall sign the Community Benefit Agreement with Midas Gold?
- Geologically, financially, and technically, how can we get a handle on the full effects of this proposal?
- What are the social-economic effects of another boom-bust cycle in this valley?

The three-part educational lecture and panel series, in which the city invited guest speakers, panelists from various related agencies, specialists in the field, health and safety representatives, and other notable government leaders, took place at the Northfork Lodge on Tuesday, October 9th, October 23rd, and November 13th at 6pm in the evening. *All meetings have audio recordings for public review available on the Proposed Stibnite web portal and have been included in the document for quick reference.*

- October 9th meeting focused on the community and how mining projects affect communities. ex. traffic, schools, housing, crime, economy

Listen to Audio from Oct 9th meeting.
https://bit.ly/2CKjgMp

Hosted by: Anette Spickard – McCall City Manager
Guest Speakers | Panelists: Tom Blanchard, Mining Historian

Summary: Mr. Blanchard gave a 30-minute lecture on mining and how it affects city infrastructure, social issues, and things to be conscience of through the process of coordinating with a mining company. Stressing the importance to keep good communication. Following, questions were directed from citizens in the room and from online submissions which were answered by multiple audience specialists and notable guests in the room.

Notable guests included: Representatives from St. Luke's Hospital, McCall Fire, Valley County Commissioners, McCall City Council, McCall-Donnelly School District, Midas Gold, Nez Perce Tribe, Idaho Transportation Department

Attendees: Totaled more than **110* people** **not all attendees signed in*

- October 23rd meeting focused on the permitting process and how government agencies fit into the project to regulate and protect communities.

Listen to Audio from Oct 23rd meeting. (Courtesy of the Star-News)
https://bit.ly/2BY6ad5

Hosted by: Robyn Armstrong, Citizen
Guest Speakers | Panelists: Lynn Hood-Environmental Protection Agency, Casey Mitchel-Nez Perce Tribe, Mckinsey Lyon-Midas Gold, Brian Harris-United States Forest Service, Aaron Scheff-Department of Environmental Quality, John Chatburn, Idaho Governor's Office of Energy and Mineral Resources, Eric Wilson-Idaho Department of Lands

Summary: Each of the participating panelists gave a brief 10-15-minute explanation of their agencies part in the permitting approval process. Then the panelists fielded questions from the audience and those submitted online prior to the meeting.

Attendees: Totaled more than **80* people** **not all attendees signed in*

- November 13th meeting focused on all affects positive and/or negative that mining or specifically the Midas Gold Reclamation project would/could have on the environment.

Listen to the Audio from Nov 13th meeting.
https://bit.ly/2BV3r43

Hosted by: Anette Spickard – McCall City Manager
Guest Speakers | Panelists: Laura Skaer- American Exploration & Mining Association, Ava Isaacson ava-Idaho Rivers United, Manuel Rauhut-Idaho Department of Water Resources, Dale Kerner- Midas Gold, Mckinsey Lyon – Midas Gold, John Robison Idaho Conservation League, Bill Lind - NOAA Fisheries, Emmit Taylor-Nez Perce Tribe

Attendees: Totaled more than **100* people** **not all attendees signed in*

Summary: Each of the participating panelists gave a 20-minute speech on environmental aspects of the Midas Gold Stibnite Project. The regulating agencies on site explained the processes in place to protect fish species and water quality. Then the panelists fielded questions from the audience and those submitted online prior to the meeting.

December 15, 2022

To The McCall City Council, Manager & staff;

The complexity of issues and concerns of the proposed Stibnite mine project will effect our community, the County and beyond; forever.

The economic factor is of great importance. This topic needs to be included equally with all other considerations. The aspects of impact are broad and long lasting, even tho this is presented as a positive boom & bust cycle. Please include information given tonight in the economic study in your comments of concerns.

The City of McCall sponsored forums that were well presented and well attended. Do not let the information or the voices of those that spoke at go unheard or unsupported.

Asking for forward thinking of our future,

Lynn Lewinski
McCall ID

RECEIVED
DEC 15 2022

From: Matt Hurlbutt
To: Sarah Porter
Subject: Tonight's City Council Meeting
Date: Thursday, December 15, 2022 1:50:38 PM

I'm emailing to provide support for the study on the impact of Stibnite mine. We are concerned how it will effect our employees housing crisis.

Thanks,

Matt Hurlbutt
Owner/Brewer
208-315-0528
Salmon River Brewery

December 15, 2022 Regular Meeting - General Comment

Name	Address	Content
Robyn Armstrong	349 Carmen Drive McCall Idaho 83638	I am writing because I care about how teh Stibnite Gold mine will affect our city, the environment of which we are a part and our way of life. Please read teh Supplemental draft Environmental Impact Satement, at least teh executive summary to understand the impact. The ecomonics of this speculative venure is important to understand. Please delay finalizing your city comment letter on the Stibnite project to the Payette National Forest until after you receive and read the economic study. A lot of community fundraising and work have gone into given the City council a presentation by the Idaho Headwaters Economic Study Group. An informed city council can make the best decisions so please educate yourselves and our residents about the proposed Stibnite gold mine.
John Rygh	349 Carmen Dr. McCall ID 83638	McCall City Council Members: I would strongly encourage you to hold off on finalizing your planned comment letter to the Forest Service regarding the Supplemental Draft Environmental Impact Statement (SDEIS) for the Stibnite Gold Project (SGP). The soon to be delivered to you study by the Idaho Headwaters Economic Study Group may provide some very relevant information regarding impacts to the City of McCall that you may not have previously considered. The socio-economic analysis in the SDEIS overlooks several important issues. Just as an example, consider the following quote from the SDEIS: "Local property taxes may be used to fund local schools, local governments, local law enforcement, fire protection, local roads, and other public services. The extent that the SGP-related increase in state and local tax revenues would result in a net benefit to Valley County's public services would depend on the extent that they offset increases in costs to provide public services." I happen to pay a lot of taxes to the county and city. That last stating-the-obvious sentence doesn't really assuage any concerns I have about those taxes increasing as a result of this project. I pointed this out in a letter to the county commissioners back in 2020 and got exactly zero response. A more cynical person might be inclined to view this as a lack of concern for the average taxpayer on the part of our county government. Perhaps the City will be inclined to do a little more due diligence on behalf of those whose money funds municipal operations. Please check out the Idaho Headwaters Economic Study Group report before you comment. John Rygh McCall, ID
Patricia Young	793 Chad Loop McCall ID 83638	City Council & Mayor Giles, Thank you for working on the City of McCall Comment Letter regarding the Perpetua Mining project. We appreciate this effort to protect the livability of McCall. As SW McCall area residents we support McCall's efforts to reduce heavy truck traffic in the downtown area. However, since this priority negatively impacts the SW McCall area and the many neighborhoods which surround the bypass, we ask the City to investigate ways to mitigate these effects. As you continue to work with Perpetua, state and other governmental agencies to improve intersections please also plan additional improvements along the total bypass. Our suggestions: Buffered Bike Lane: The existing bike lanes are inadequate with current heavy truck traffic which often use this space while traveling along the bypass. A buffered bike lane would provide safer travel for non-motorized individuals. Sound & Visual Barriers: Strategic placement of sound walls or berms would help minimize the effects of noise pollution on neighborhoods near the bypass. Speed Study: Bypass speed study to determine the feasibility of speed changes to help with safety and noise pollution. Thank you for your time and effort to investigate and understand the likely effects of the Perpetua Mining project on our city. Sincerely, Patty & Eric Young
Joey Pietri	225 Valley Springs Rd. McCall I'd. 83638	Thanks for taking my comment . I am in total support for the City Council. To back the Study presented by the IHESG. I also would support the Council reject any plans for Mining in Valley County as a business owner I think it would be a detriment to our local economy and the overall character of the community. We can do better .Thank you

From: David Gallipoli
To: BessieJo Wagner; Anette Spickard
Subject: comments for the Jan 5th ,2023 agenda
Date: Wednesday, January 4, 2023 11:13:07 AM

To the McCall City Council, 1/4/23

Last year the council acted on new STR ordinances and wrote ordinances to protect our endowment land from exploitation. The McCall City Council continues to show concern for the health, welfare, and safety of everyone in McCall and Valley County. Your actions to protect our land, water, and wildlife are commendable and courageous when many other political leaders are silent.
Your SDIS letter to Payette National Forest Supervisor, Ms. Linda Jackson, is brilliant and covers many issues that concern me. You asked detailed questions that have not been asked and have challenged the false narrative Perpetua Resources has been advertising and lobbying for to make their case about the Stibnite mine. While Perpetua has ignored the high risks of the mine to people and our environment, you provided the data, science, and thoughtful questions that need answers.

I support the McCall City Council and your letter and hope you will approve the letter on January 5th.

I am proud to live in McCall and have a City council that is concerned and takes action for the greater good of our community and environment. I applaud your leadership. This is a beautiful way to start the New Year!

Thank you,
David Gallipoli, 200 Scott St, McCall, Idaho
David J Gallipoli
www.gonefishinstories.com
gallipolifish@gmail.com
203 314 1377