

Grant Creek Village Rezone Traffic Impact Study Process

Public Works & Mobility

June 1, 2022

Jeremy Keene, Director



Findings of Fact

4/11/22 Staff Report, p. 8-9

Transportation

33. The Montana Department of Transportation recently upgraded the intersection of Grant Creek Road and I-90 to include three south-bound lanes, a bike lane, and signal timing upgrades to maximize safe traffic flow. The applicant submitted a traffic impact study that has been vetted by city staff, who requested changes. Future transportation facility upgrades will be required to be made by the developer. This is a process that takes place under Title 20 at the time of building permit review.
34. As part of the existing multi-dwelling development permit process, the developer built boulevard and sidewalk along the north side of Expo Parkway on the southern parcel. There is a missing sidewalk segment between the subject property and Grant Creek Trail. Sidewalk is also intermittent along Stonebridge Road. The missing segments can be required through future building permit reviews.
35. The developer has petitioned for the property be added to the Missoula Urban Transportation District as per Title 20, Section 20.40.090.G. There are no transit lines currently adjacent to the parcels. Mountain Line's Route 11 is available about a mile south at Expressway and Reserve Street. Mountain Line's 2043 Long-Term Network plans to serve this area via Route 15A, which would potentially provide 30-minute transit service to North Reserve, but the implementation of this route is contingent on several factors including future funding.

Agency Comment

4/11/22 Staff Report, p. 13

City Public Works and Mobility Transportation Division

"1. Whether the zoning is designed to promote public health, public safety, and the general welfare;

a. Public Works & Mobility recommends that the developer investigate the irrigation ditch and mitigate the effects of leakage on nearby residences if needed.

2. whether the zoning is designed to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements;

a. Grant Creek Village has submitted a traffic impact study. Based on the TIS the development will have impacts to the immediate streets and to Grant Creek Road. The signalized intersections of Grant Creek Road and I-90 have recently been upgraded. Engineering has asked for additional TIS items which might show a need for improvements to Grant Creek Road at Expo Parkway and/or Stonebridge Road. If improvements are warranted, they would be installed by the development.

6. whether the zoning considers the effect on motorized and non-motorized transportation systems;

a. Grant Creek Village has shown adequate motorized and non-motorized infrastructure within the development. However, Public Works & Mobility would recommend additional non-motorized connections, especially across the center of the development and to continue those facilities across the parking areas connecting to Stonebridge and widen the eastern sidewalk to allow for both bicycle and pedestrian use." City Engineer for Development Review Troy Monroe, March 21, 2022

Traffic Impact Study Process

Chapter 7.2.3 Public Works Manual

<http://www.ci.missoula.mt.us/DocumentCenter/View/58690/Chapter-7-Transportation>

- TIS required for 200 or more additional average daily trips
- TIS submitted with development application (i.e. building permit or subdivision)
- Meeting with City Engineer to establish study parameters - including other development that should be accounted for in the study
- TIS shall include analysis and impacts to all transportation facilities, including adversely affected nearby streets and intersections, public transit, bicyclists, and pedestrians.

ITE Trip Generation Manual

- Empirical studies based on counts/observations
- Trip = exiting or entering (leave and come back = 2 trips)
- Single-family residential ~10 trips/day
- Multi-family residential ~4-6 trips/day

Single-Family Detached Housing (210)

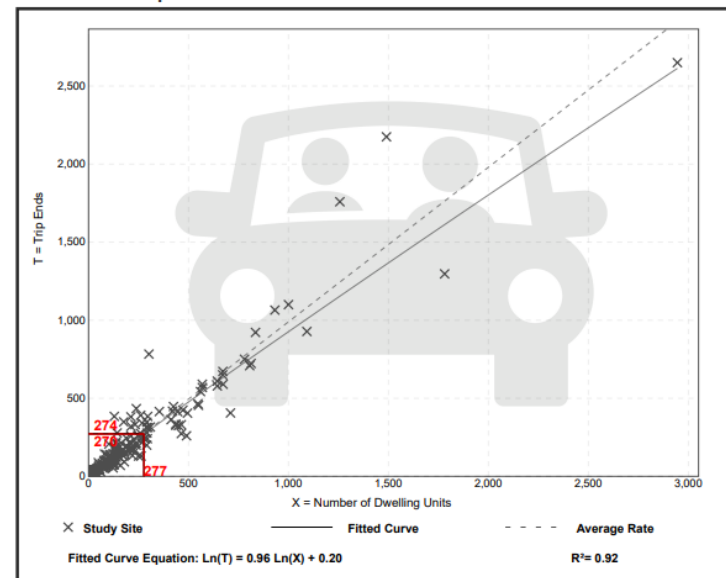
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban
Number of Studies: 190
Avg. Num. of Dwelling Units: 242
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Trip Gen Manual, 10th Edition • Institute of Transportation Engineers

When is mitigation required?

- Crash History/Risk
- Excessive Delay
- Excessive Queuing



Mitigation Examples

- Street Lighting
- Enhanced Crosswalks
- Traffic Calming
- Improved Connectivity
- Traffic Reduction Measures
- Additional Lanes
- Signals/Roundabouts



Who Pays?

- Direct Mitigation – developer-funded improvements
- Impact Fees – Capital Improvement Projects (system capacity)
- Proportional Cost – developer cost-share



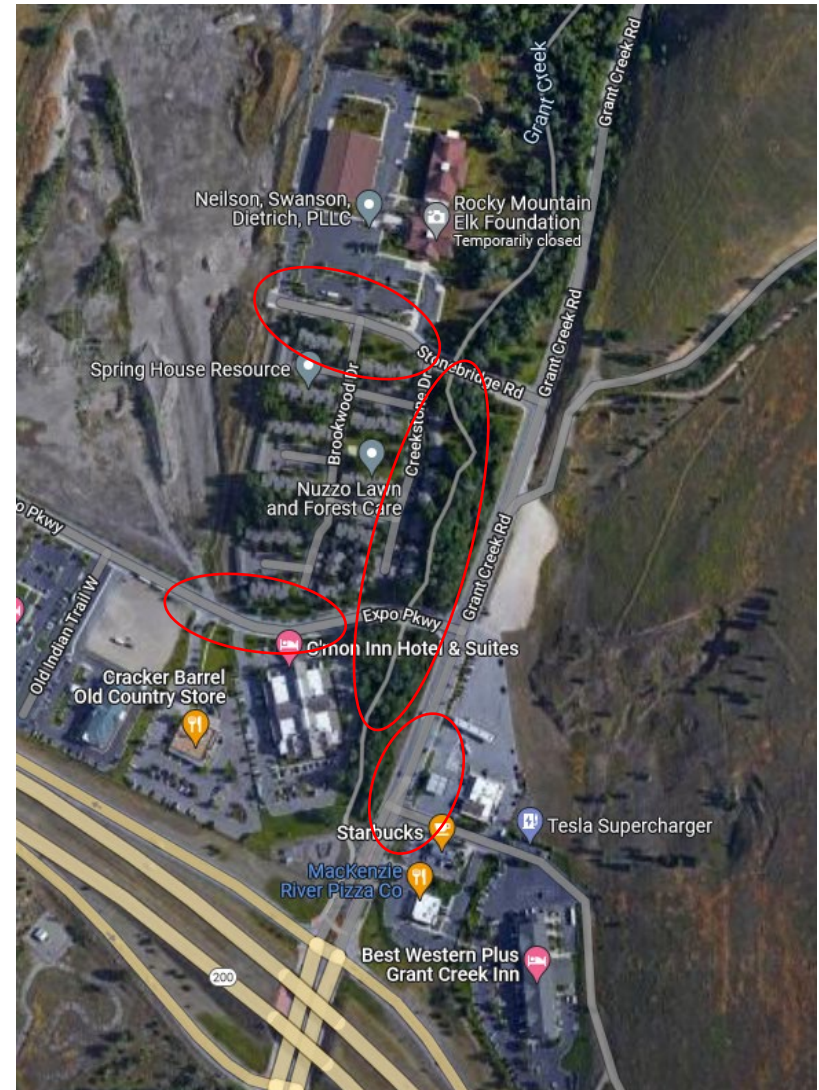
Existing Conditions

- Recent I-90 Intersection Improvements
- 6,000 – 7,000 Average Daily Traffic



Existing Conditions

- Sidewalks
- Trails
- Crash History



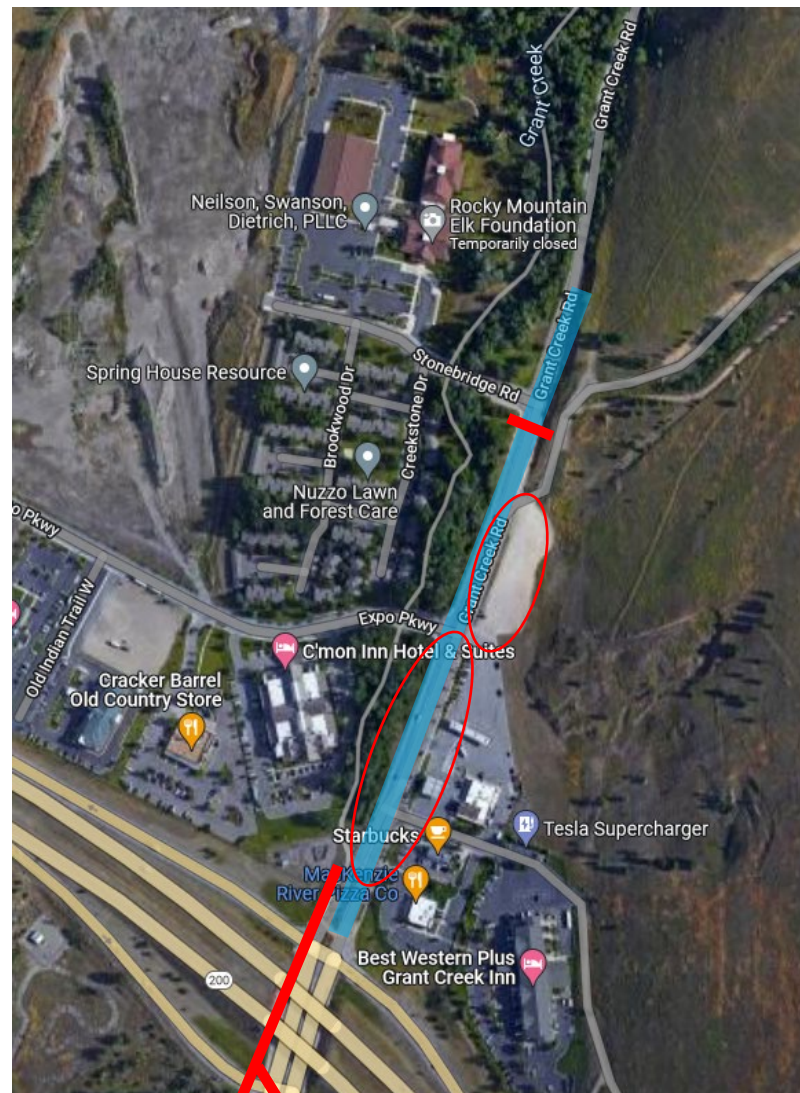
Plans for Grant Creek Road

Near Term

- Speed Limit Reduction
- Crossing Improvements for Bluebird Trailhead

Long Term

- Access Control/Consolidation
- Trail Connections
 - Improve existing to Shared-Use Path standard
 - Continuing south along Grant Creek
 - Continuing east along I-90
- Reserve Street Ped Safety Study (MDT)
- Reserve Street Signal Timing (MDT)



TIS General Comments

- Capacity is not the sole measure of transportation impacts of new development. Other metrics like safety, multi-modal and mode shift impacts, and air quality impacts should also be evaluated.
- Clarifying assumptions about trip distribution, queuing analysis, and existing conditions could require mitigation such as further extending the right turn lane at I-90

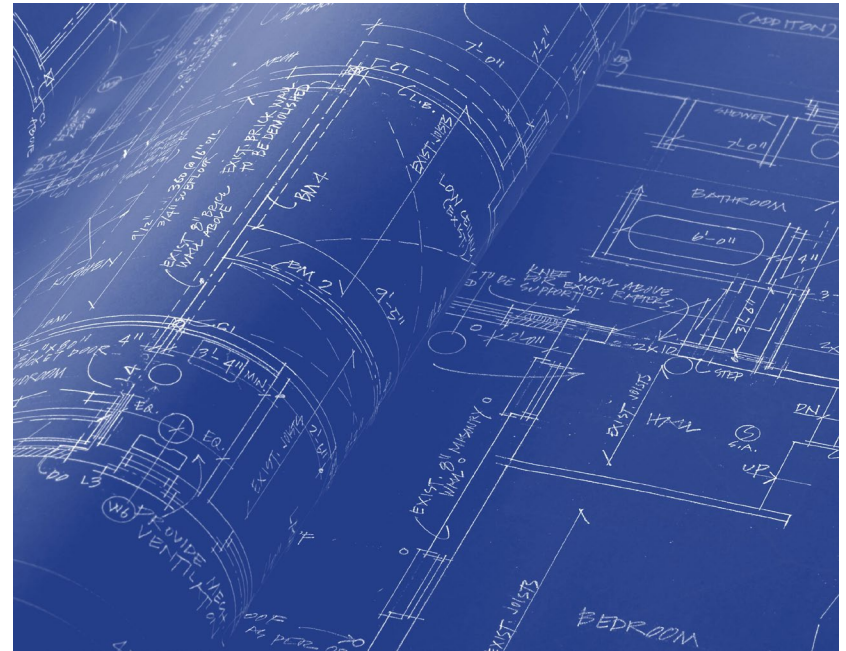
Potential Mitigation Measures

- Traffic Calming
- Sidewalk Connections
- Path Upgrades
- Enhanced Crossings
- Trip Reduction
- Intersection Improvements



Next Steps

- Development Agreement (?)
- Building Permit Application/Revised Traffic Impact Study
- Mitigation Measures
- Ongoing Neighborhood Communication



Questions

