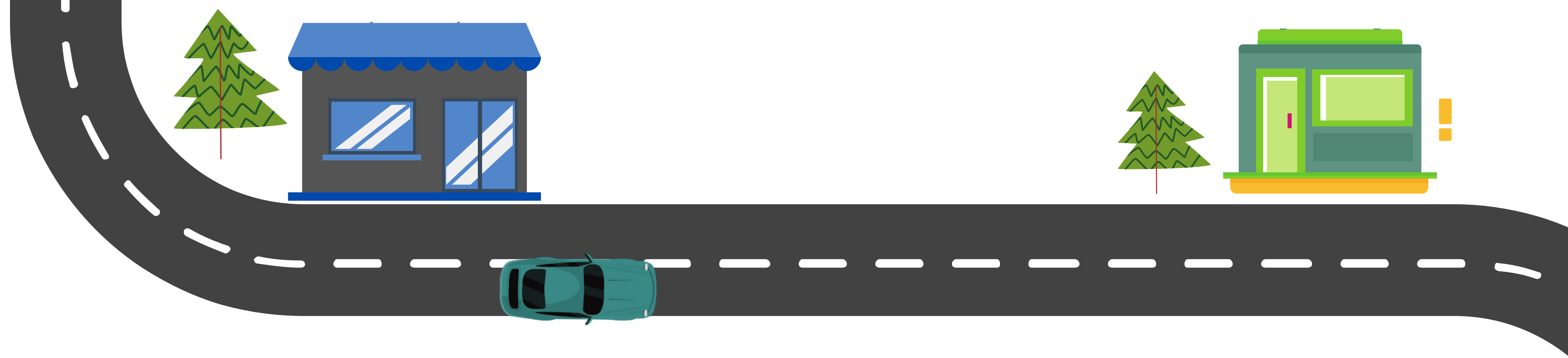


# WELCOME!



**Thank you for joining us to  
provide your input about mobility  
and transportation in Pinedale!**

Why develop a Transportation Master Plan  
and Pedestrian Safety Plan?

The Town of Pinedale recognizes the need  
to enhance safety,  
accessibility, connectivity, resiliency, &  
livability in our community!

Help us assess mobility needs & identify  
actionable near- and  
long-term solutions.

## How to get the most out of this workshop

- Take a look at the displays and talk with the project team
- Fill out the project survey when you are here or complete the survey thru Friday, March 9th via the town website

## Following the presentation and from review of the displays, share your thoughts with the team about Pinedale's mobility:

- What are your concerns about transportation today and what is projected?
- What are your thoughts about the Pine Street and network alternatives presented?
- Do you have any thoughts about multimodal considerations?

**Note: A Transportation Master Plan public workshop was held on March 1, 2023 at the Pinedale Sublette County Library. The information presented here are the posters which were displayed at the workshop.**



## The Project Team



## Community Partners





# Project Overview

## Purpose of Master Planning

A Master Plan helps communities and stakeholders make educated and data-driven decisions about transportation programs, policies, and projects to fund and advance. **This Master Plan will include implementation strategies to improve the transportation system, and enhance safety, accessibility and connectivity while aligning with the community goals and objectives for the short- to long-term.** Having this plan in place will give the Town and stakeholders leverage when applying for grants and funding to support local transportation projects in the future and account for transportation with future growth development. This study focuses on motor vehicle, pedestrian, bicycle, and commercial truck travel patterns.



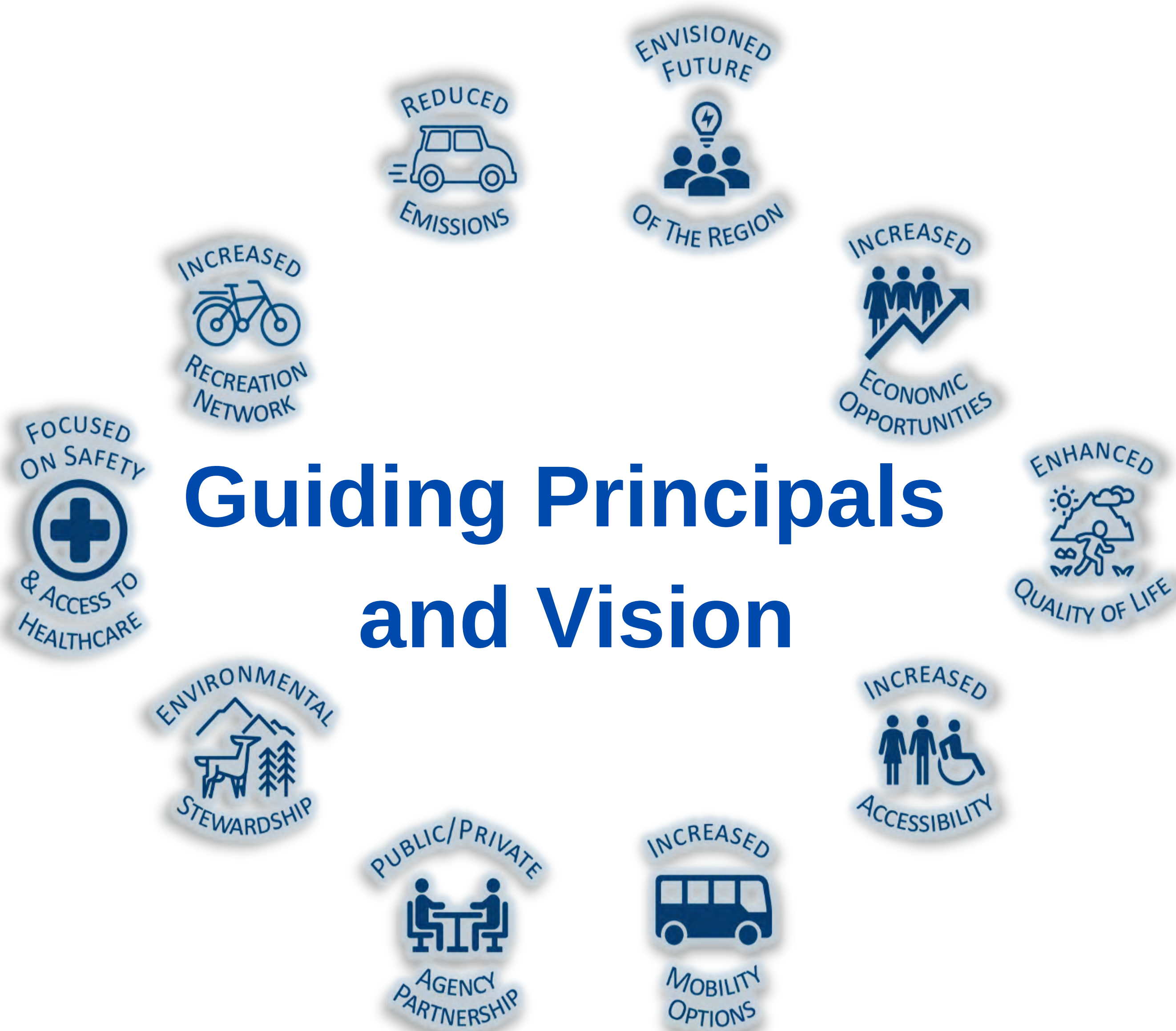
## Transportation Master Plan

This study will assess mobility needs and identify actionable near-term and long-term solutions for enhancing safety, accessibility, connectivity, resiliency, and livability within our community. **The goal of the Transportation Master Plan is to use real data and input from the community and Steering Committee to develop data-driven transportation alternatives and recommendations to improve Pine Street and the local transportation network.** These alternatives and recommendations will provide an actionable plan for the community on which to base future transportation decisions.

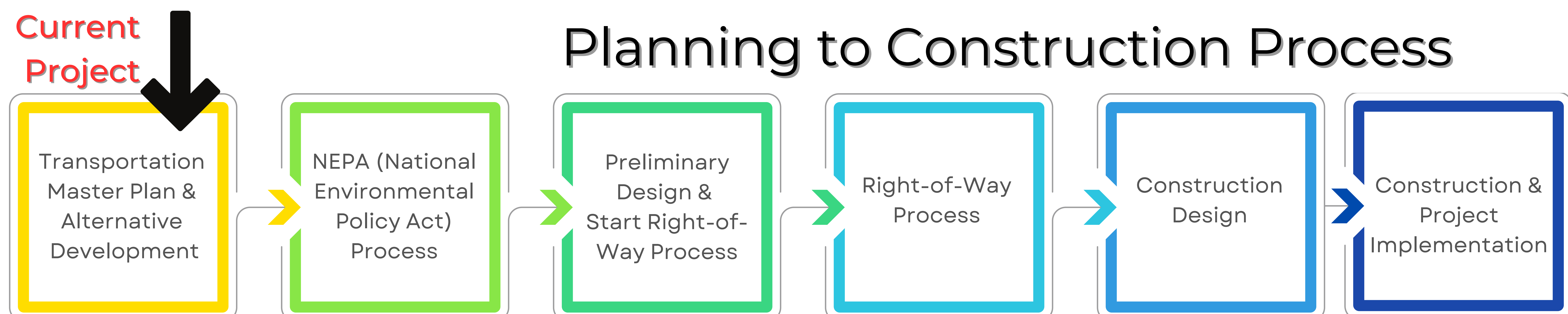
## Pedestrian Safety Project

Simultaneous to the Master Plan, the Pedestrian Safety Project is ongoing to review, evaluate and develop pedestrian and bicycle improvement alternatives along Pine Street / HWY 191. **Construction drawings will be developed this coming winter and spring to address the selected alternatives.**

## Guiding Principles and Vision



## Planning to Construction Process





# Transportation Issues & Challenges

## Key Identified Issues

### Pine Street

- Capacity & intersection turning movements
- Ped safety/access
- Multimodal
- Existing layout (sight distance, crossing, turn lane)
- Speed
- Trucks
- HAWK Lights
- Excessive accesses

### Network Connectivity

- Lack of connectivity
- Pine Creek Crossing (this was not highly identified in public workshop)
- By-pass, south regional connection

### Multimodal

- Pedestrian safety
- Connectivity issues



## Pine Street Safety Analysis

### Accesses (Driveways)

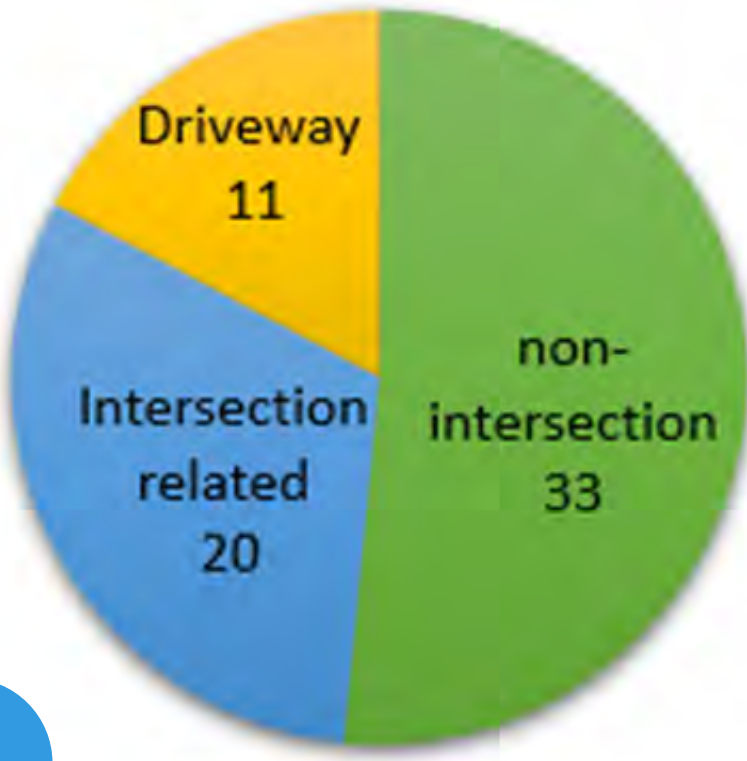


### Non-intersection Crashes



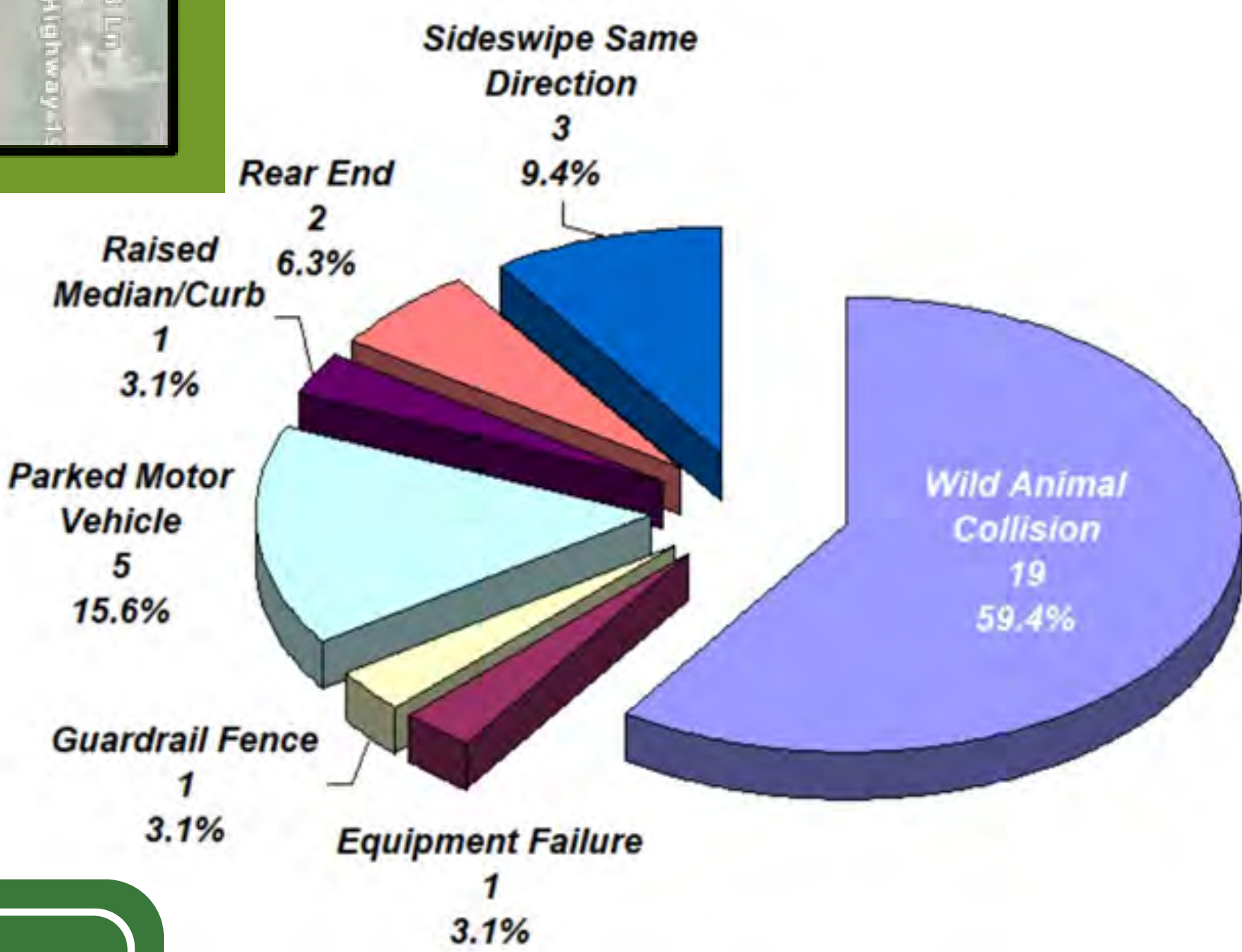
### Intersection Related

- 12 PDO crashes and 8 Injury crashes with 9 people injured.
- Intersections recording 3 or more crashes:
  - Sublette Avenue,
  - Tyler Avenue
  - Country Club Lane (weather related, lane merge)



A total of **64** crashes took place on Pine Street between 2016-2021

Pine Street Safety Analysis  

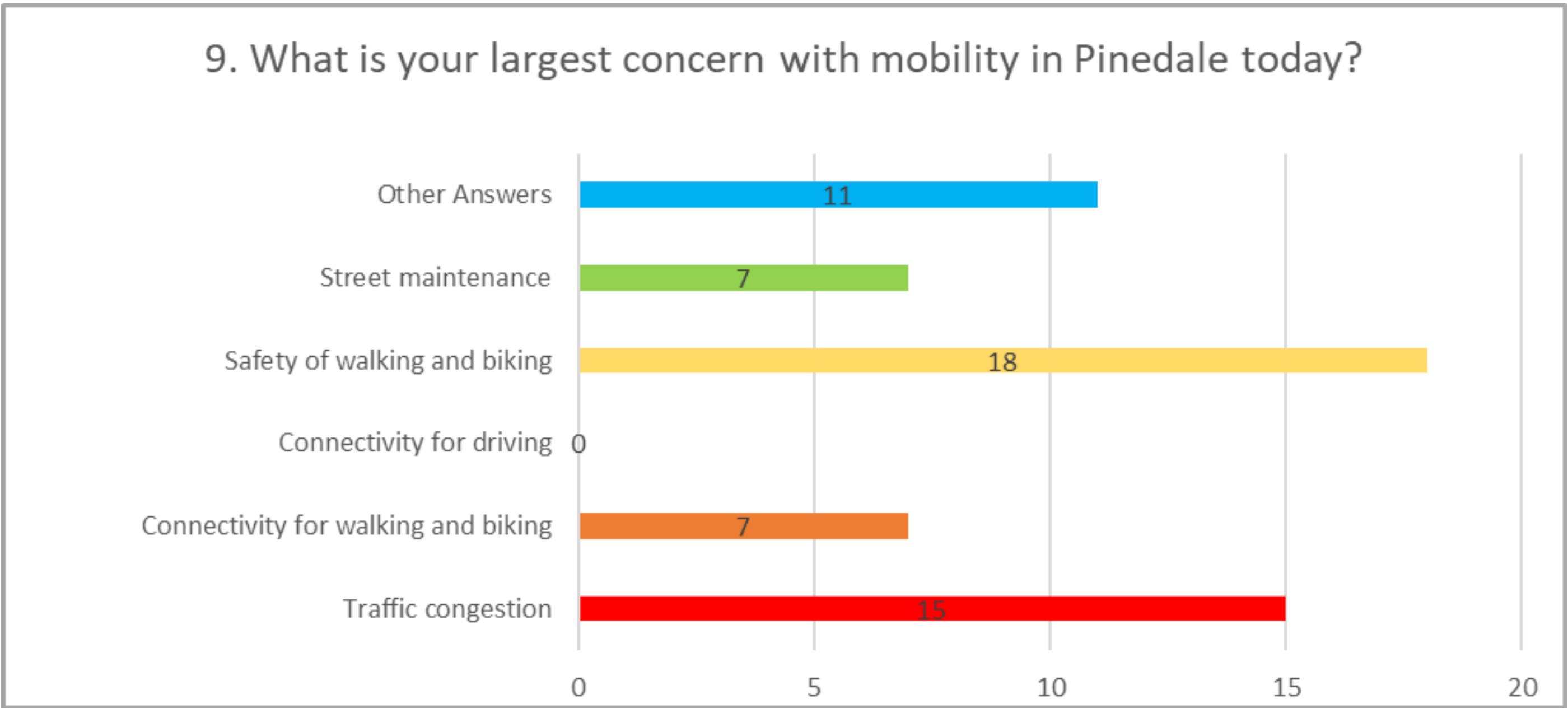
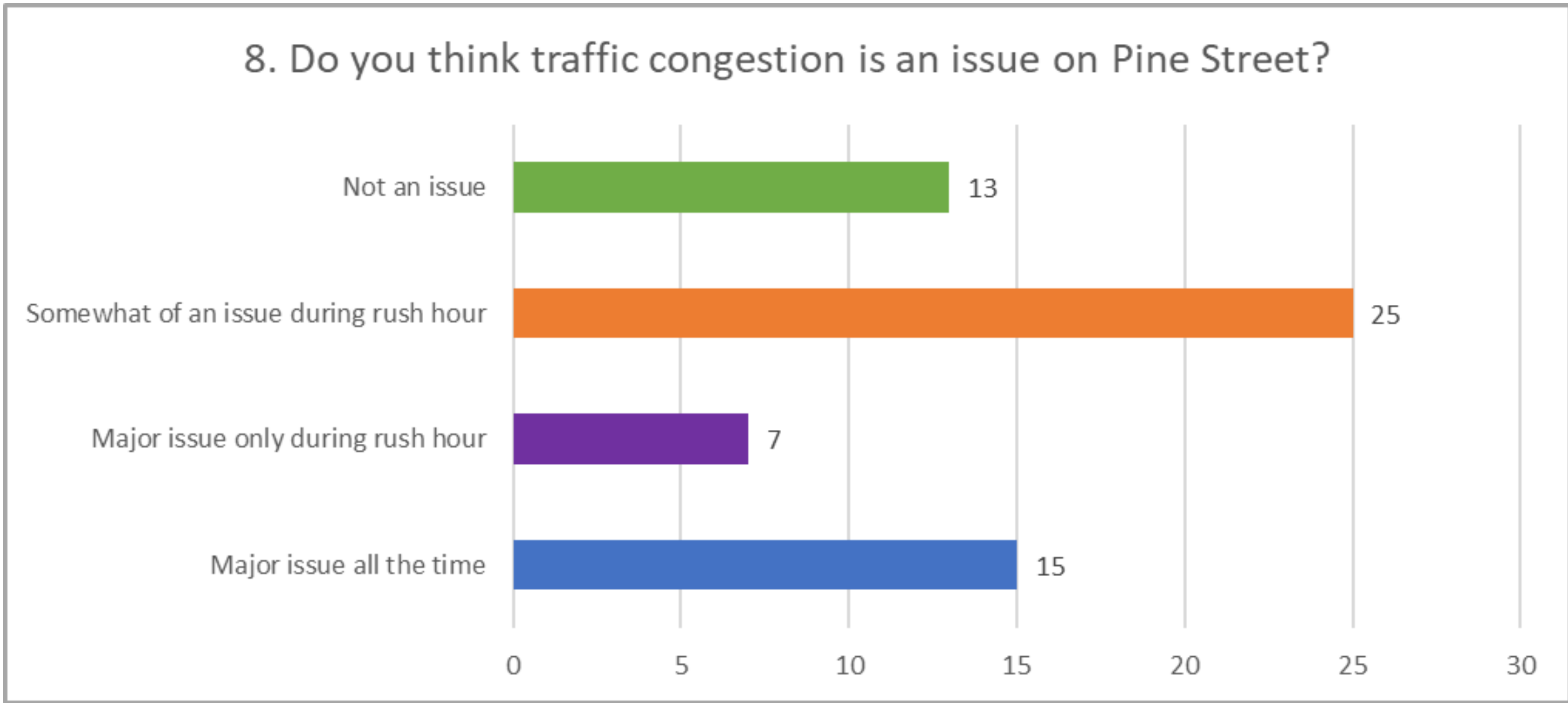
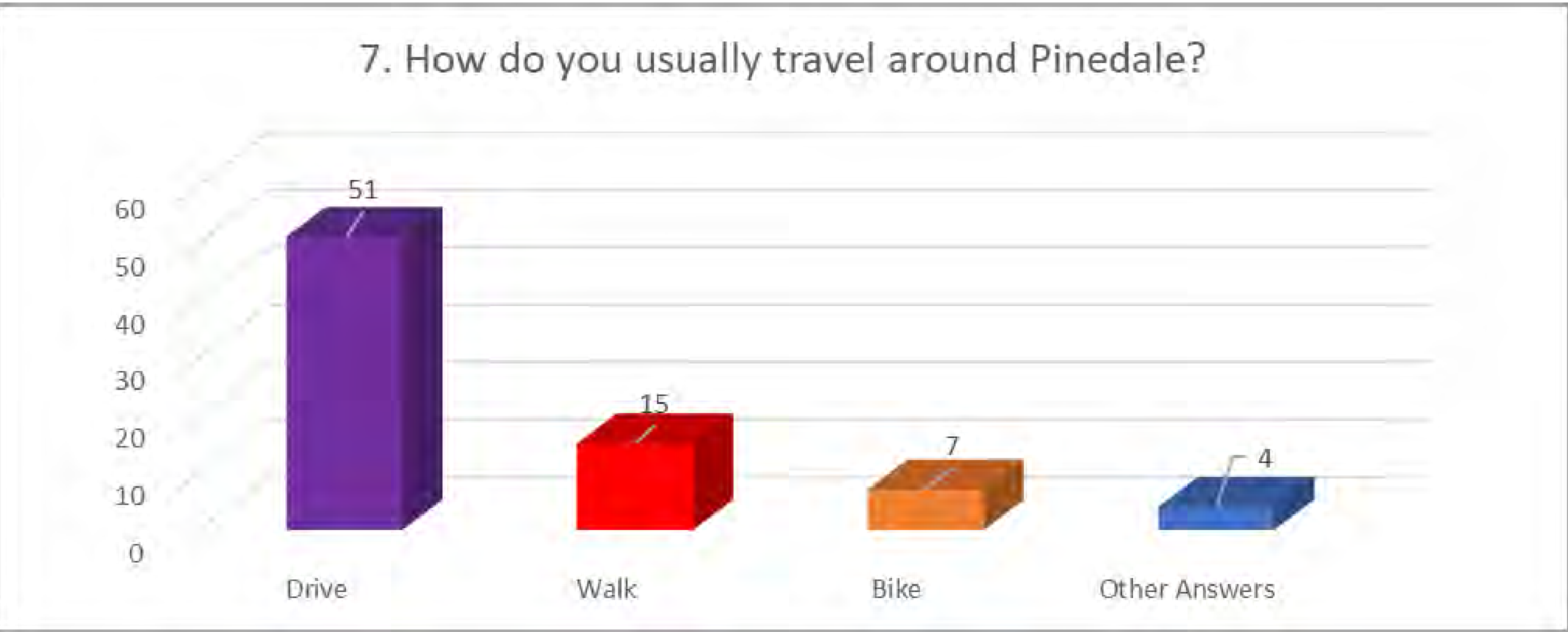
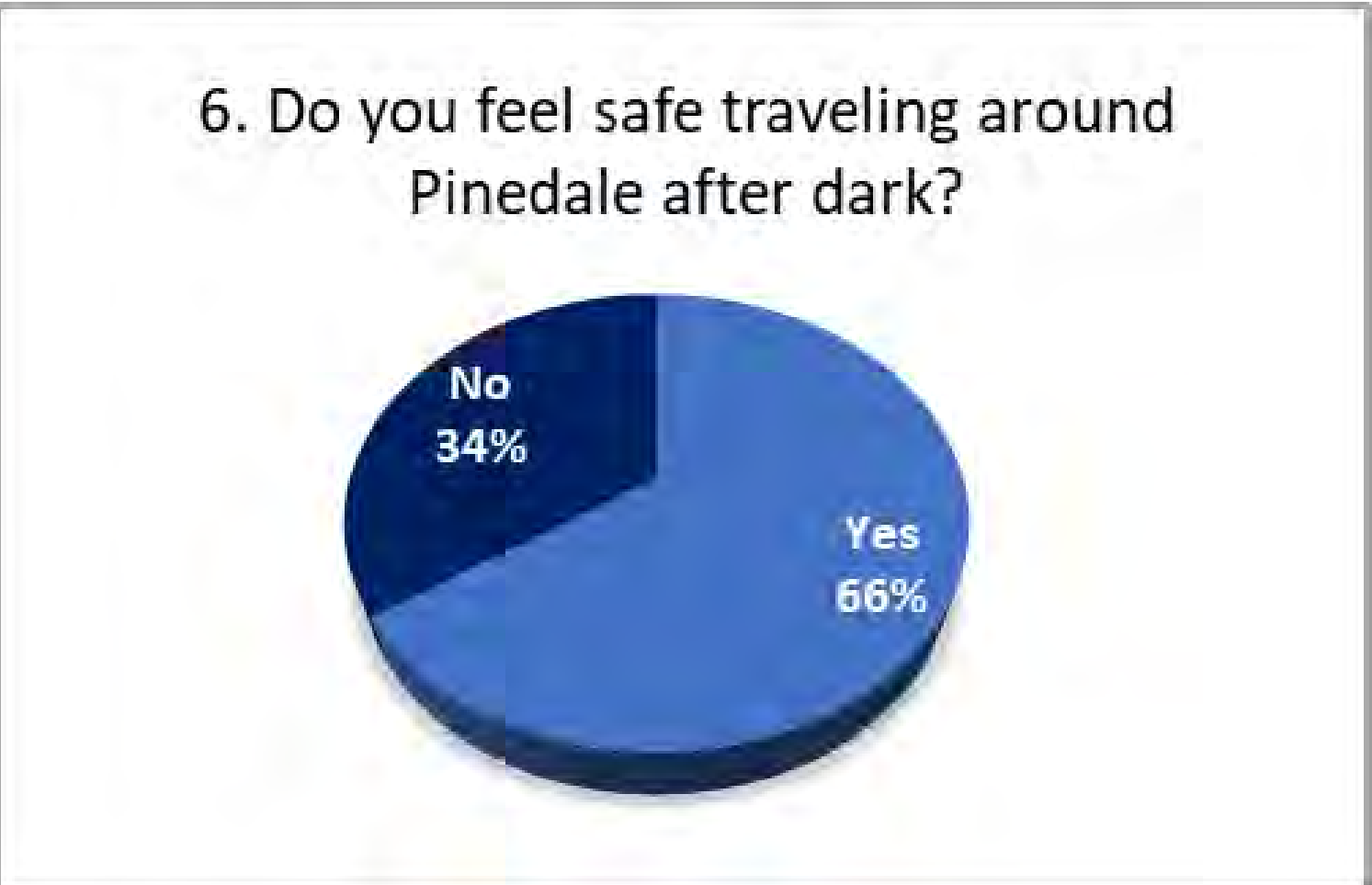
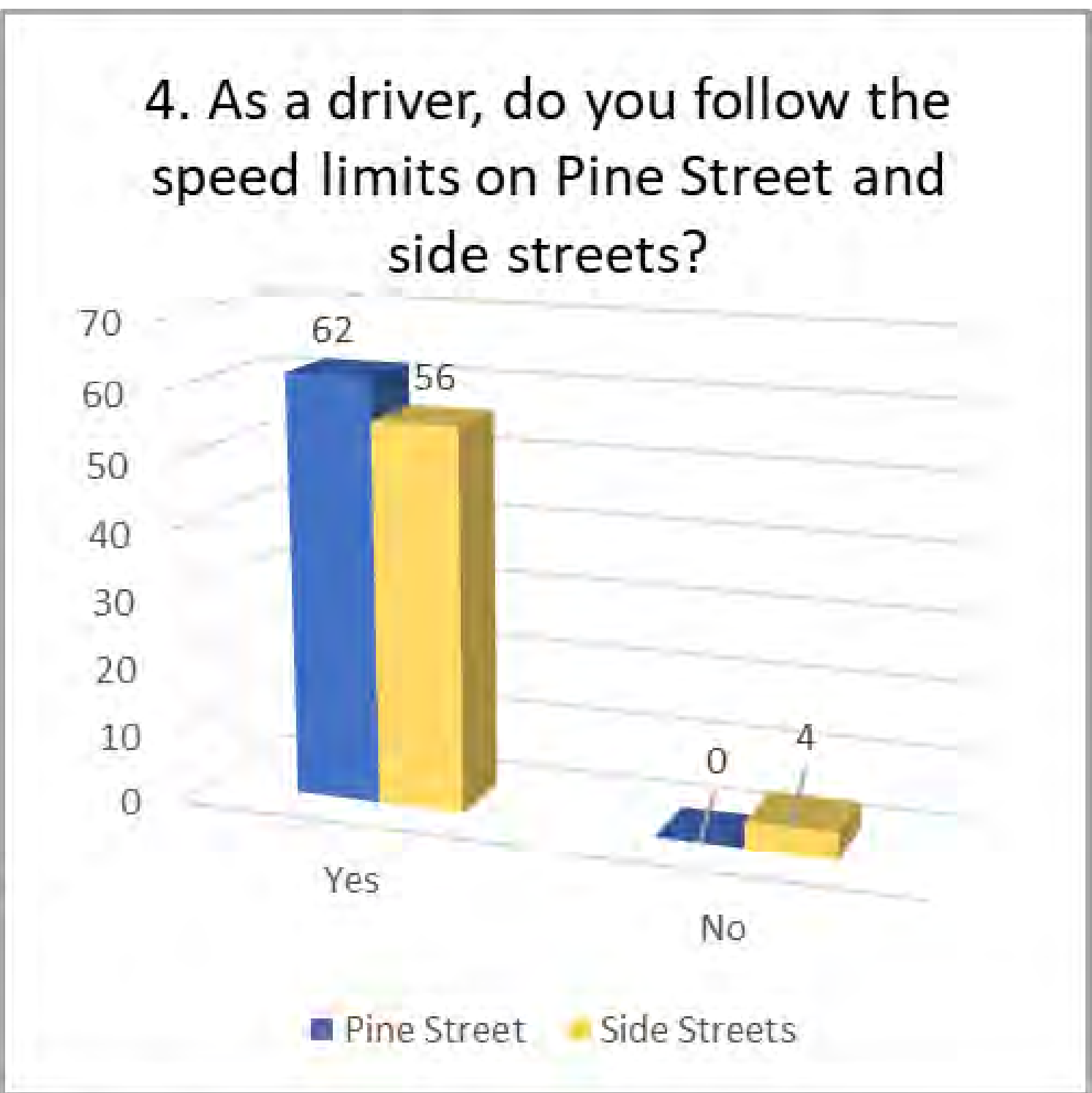
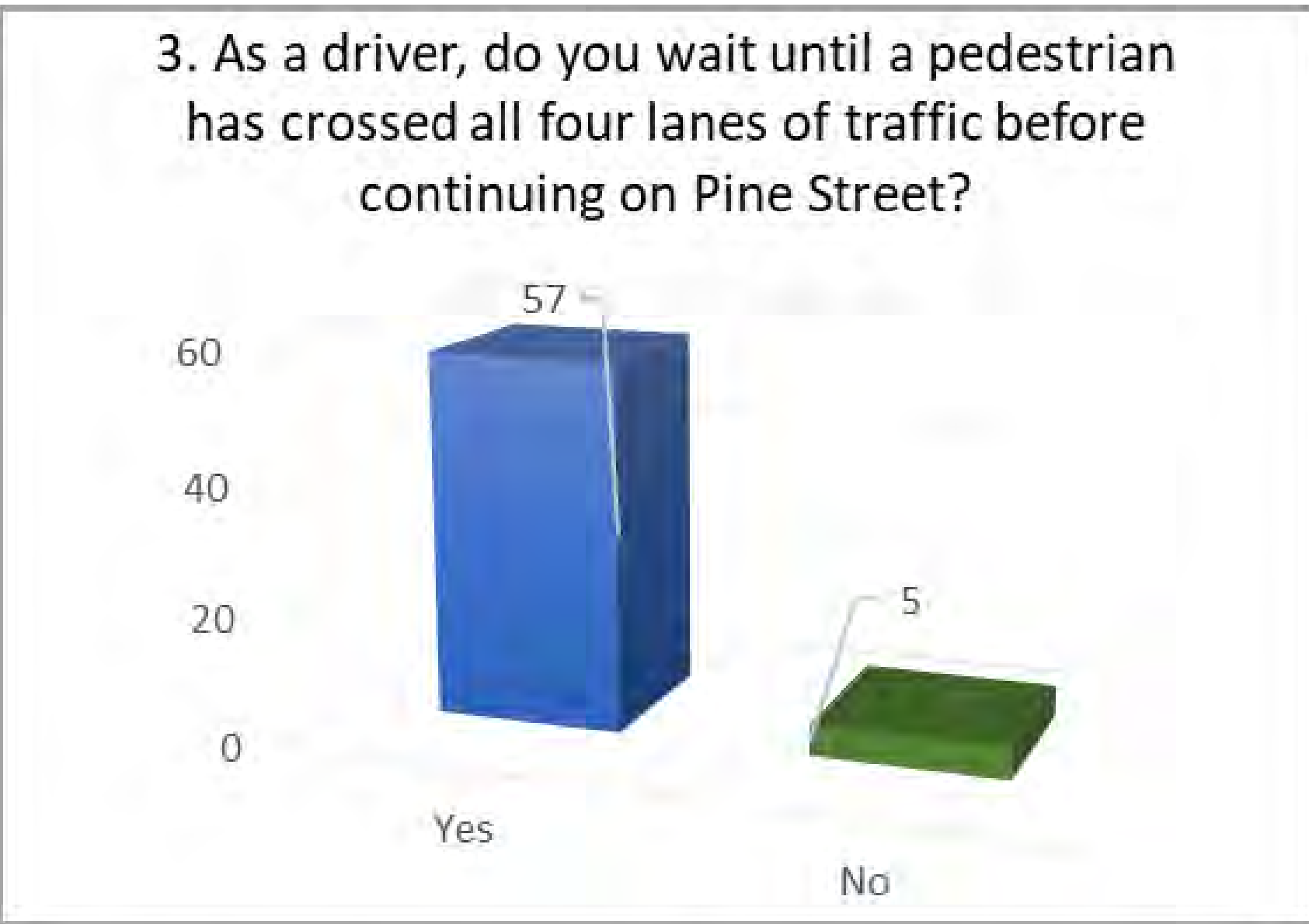
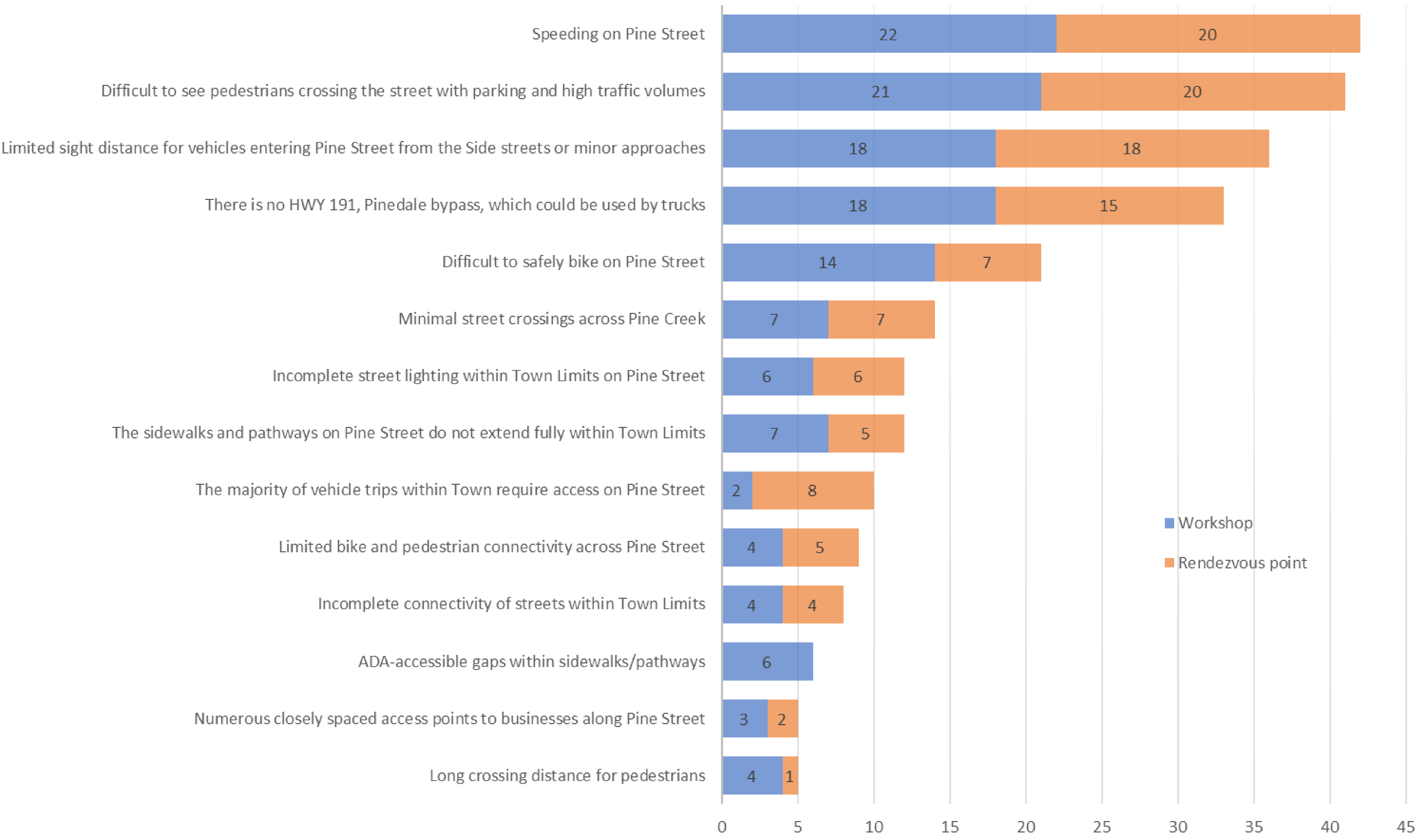





# August Public Workshop Survey Results from Library & Rendezvous Point



## TRANSPORTATION CHALLENGES (PICK UP TO 5)

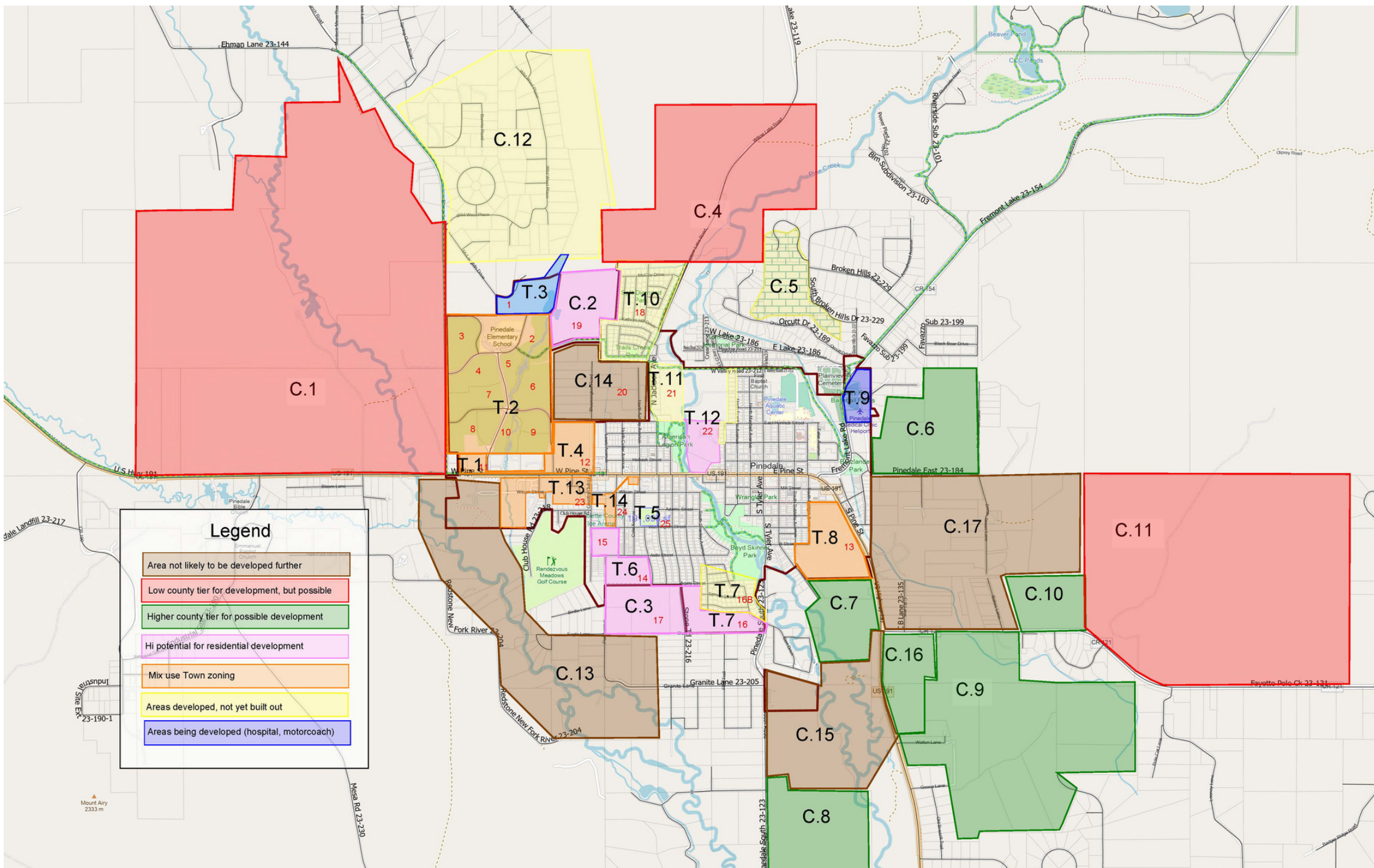




# Pinedale Vicinity Growth & Traffic Forecasting

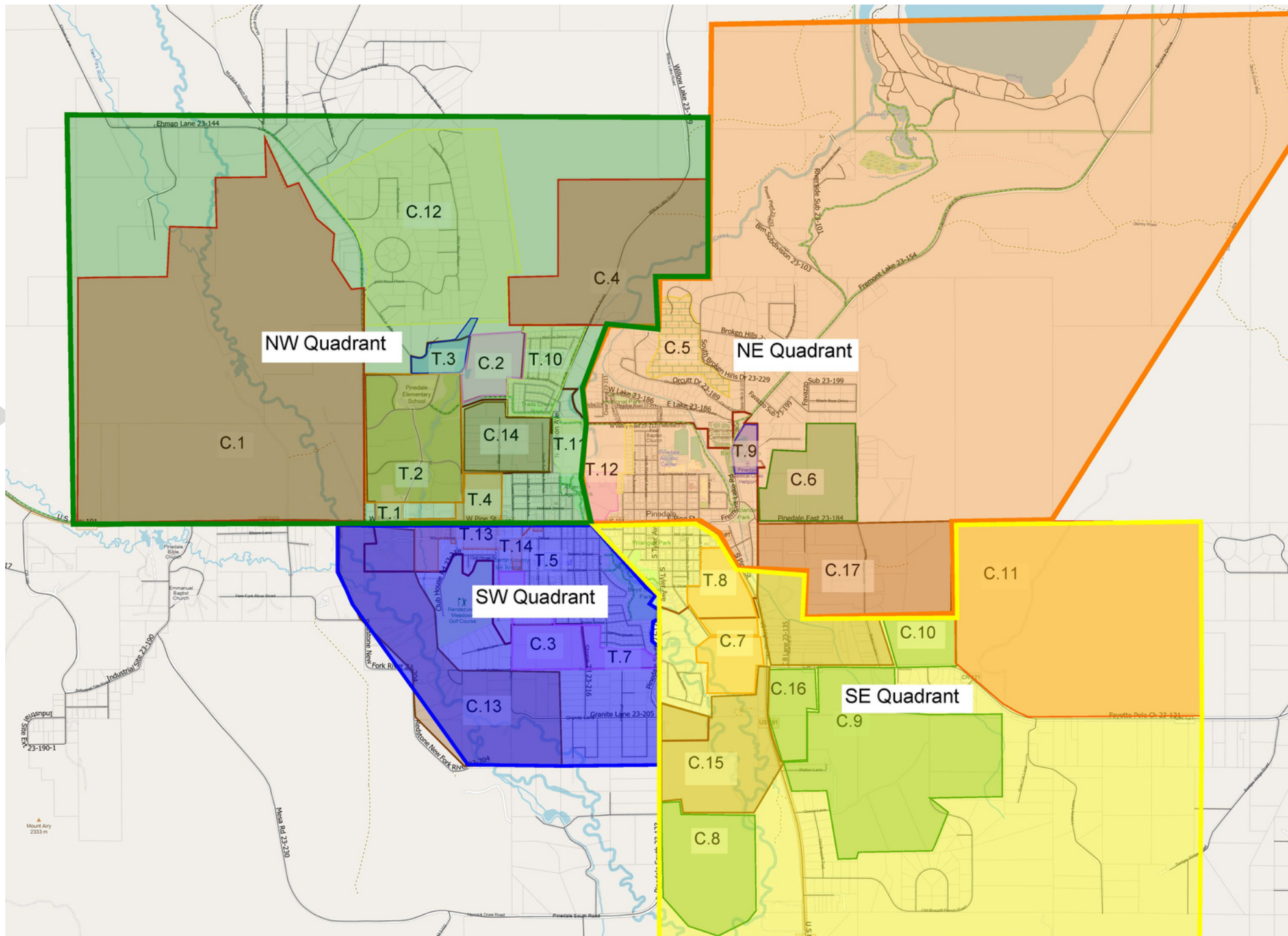
## Vicinity Growth

Forecasted long term land use and vicinity growth



Full Summary	Town	County	Total	
Vacant Residential Lots	138	144	282	dwelling units
Potential Residential	1752	737	2489	dwelling units
Total Residential	1890	881	2771	dwelling units
Commercial / Gravel Pit	147	66	213	acres

The growth was grouped into quadrants (using Pine Street and Pine Creek as the boundaries) and estimate trips and distribution based on vicinity development



Residential Area % Growth		Commercial/Industrial % Growth	
55%	6%	47%	4%
18%	21%	14%	36%

Vicinity Growth

## Regional & Tourism Growth

To account for additional regional growth and tourism a 2% annual growth factor was added to background growth was added to Pine Street traffic and collector roads. 1% growth

Regional & Tourism Growth

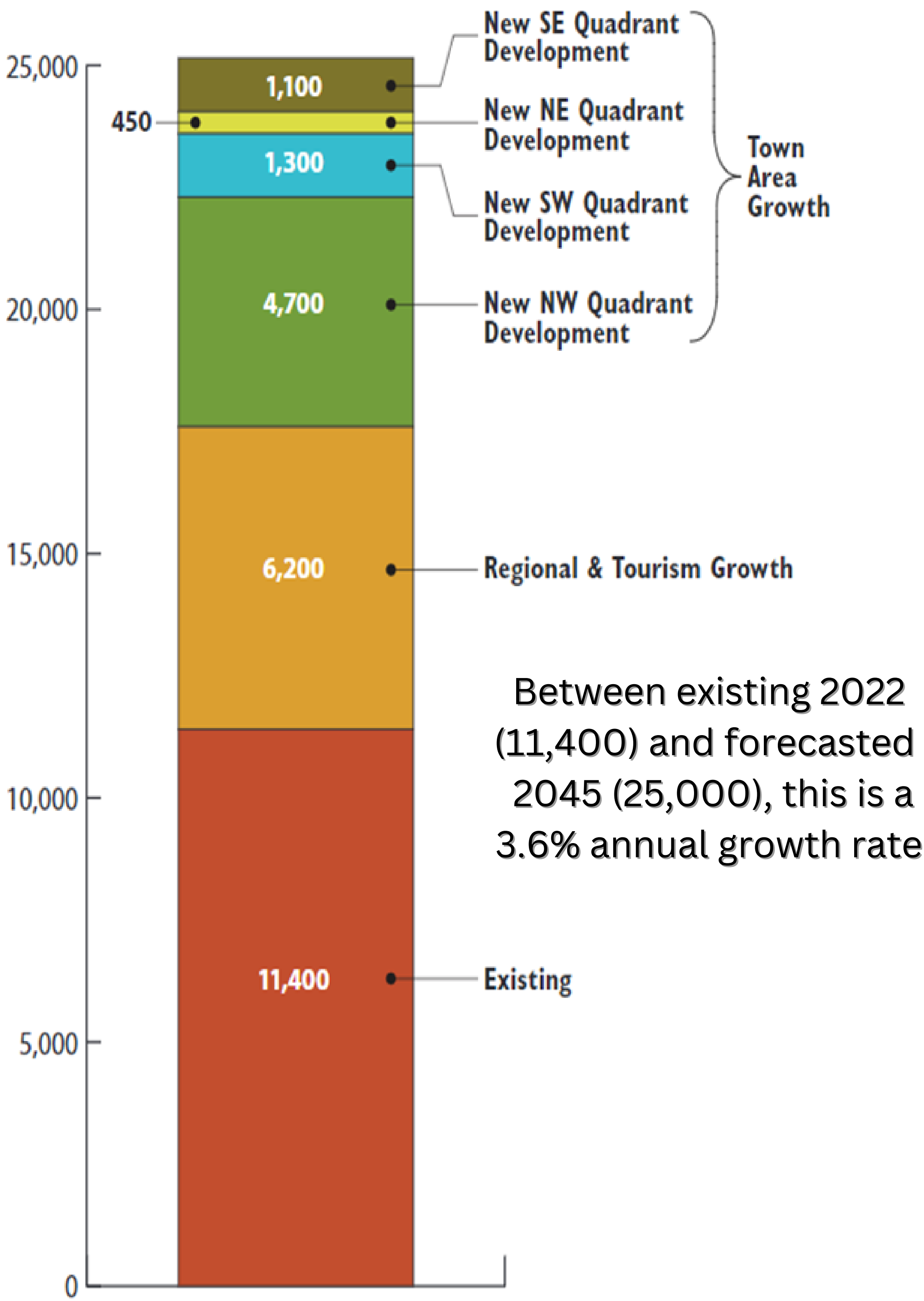
## Existing

Existing Traffic conditions in Pinedale is based on WYDOT and StreetLight Data. Based on use of StreetLight Data, July and March were selected for the study analysis.

March represents typical school year traffic. July represents peak summer season traffic.

Existing Traffic (July at Bridge)

Pine Street July Daily Traffic At Pine Creek Bridge

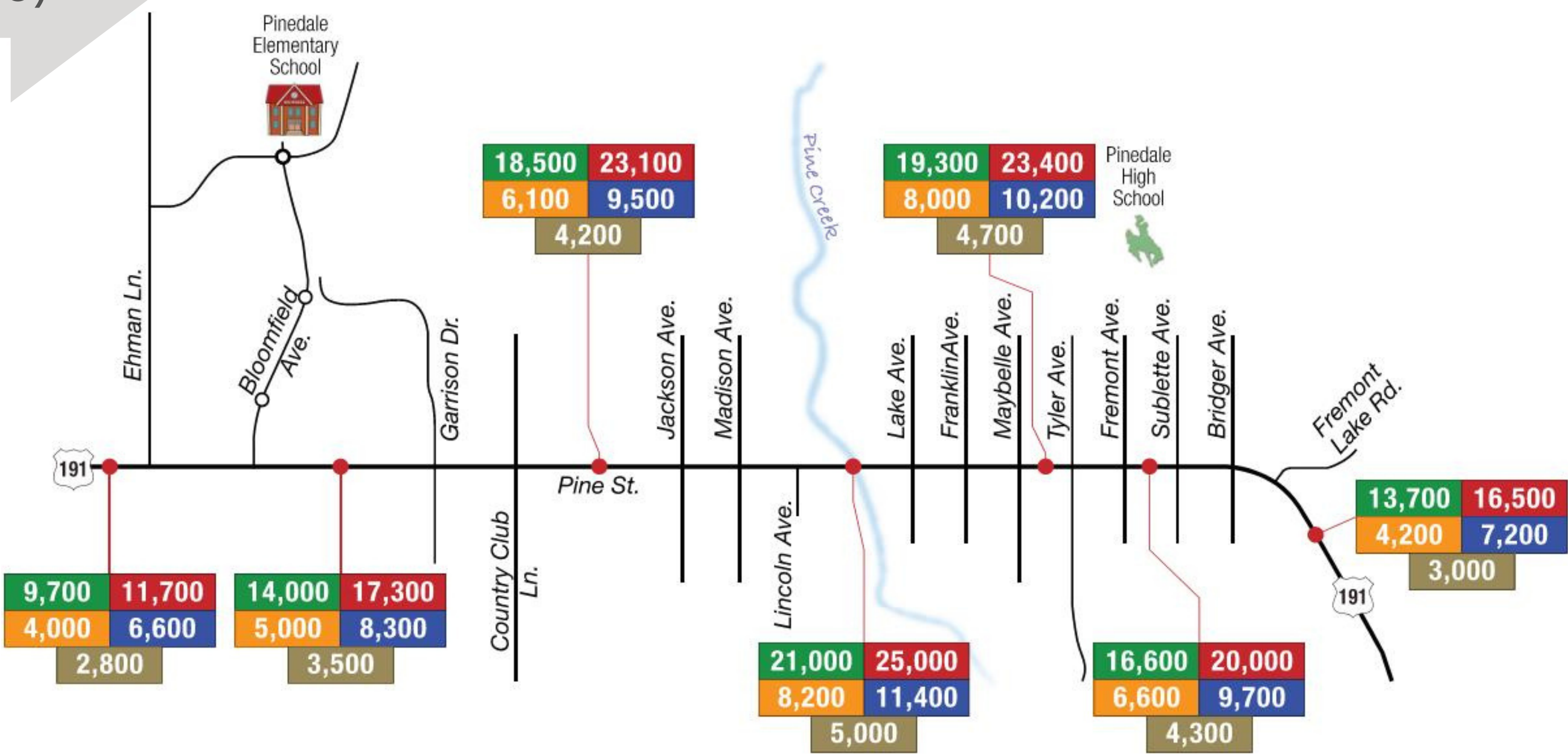
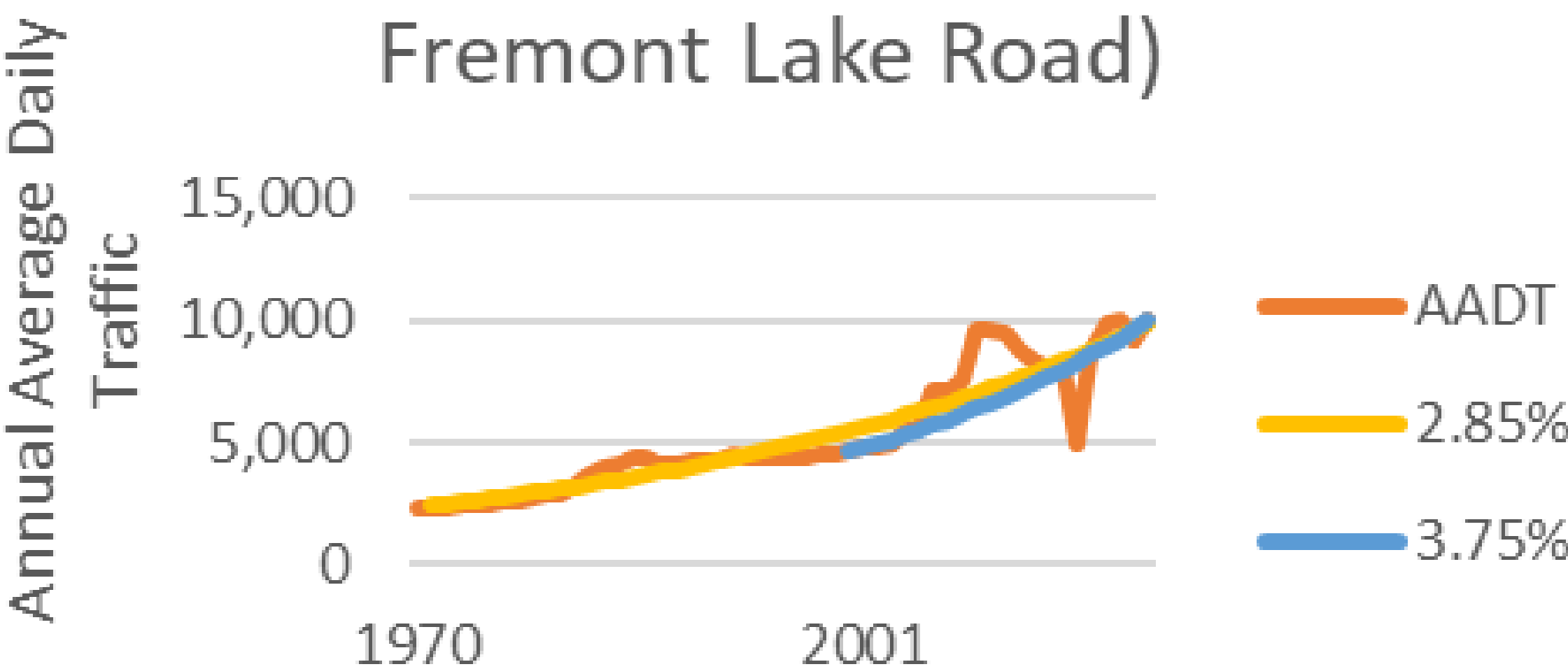


Between existing 2022 (11,400) and forecasted 2045 (25,000), this is a 3.6% annual growth rate

### Comparison to historic WYDOT Growth

WYDOT has been counting traffic since the 1970s and have been collecting 24 hr/day traffic data near the Daniel Junction and near the Pinedale Airport. These number in conjunction with other traffic count data are used to estimate traffic in Town. This growth has averaged to 2.85% from the 70's to current, and 3.75% annual growth from 2000 to current.

Pinedale Street Traffic (near Fremont Lake Road)



LEGEND  
March July  
XXXX XXXX = 2045 Projected Daily Traffic Volumes  
XXXX XXXX = Existing Daily Traffic Volumes  
XXXX = Estimated Year 2000 Average Annual Daily Traffic Volumes

DRAFT



# Impacts to Pine Street (if we don't do anything)

## Now vs. 2045

### Intersection Level of Service

Level of Service (LOS) is defined by the Highway Capacity Manual as a qualitative measure used to relate the quality of traffic service based on roadway capacity and average vehicle delay. Level of Service is described for movements through a designation of A to F where LOS A represents the best operation and LOS F represents congestion/failing traffic conditions.

Control delay was measured for each minor-street movement as well as major-street left turning vehicles. Through vehicles are assumed to experience ‘zero’ delay. LOS can be approximated or calculated for each minor movement, each minor approach, and left turning major approach vehicles.

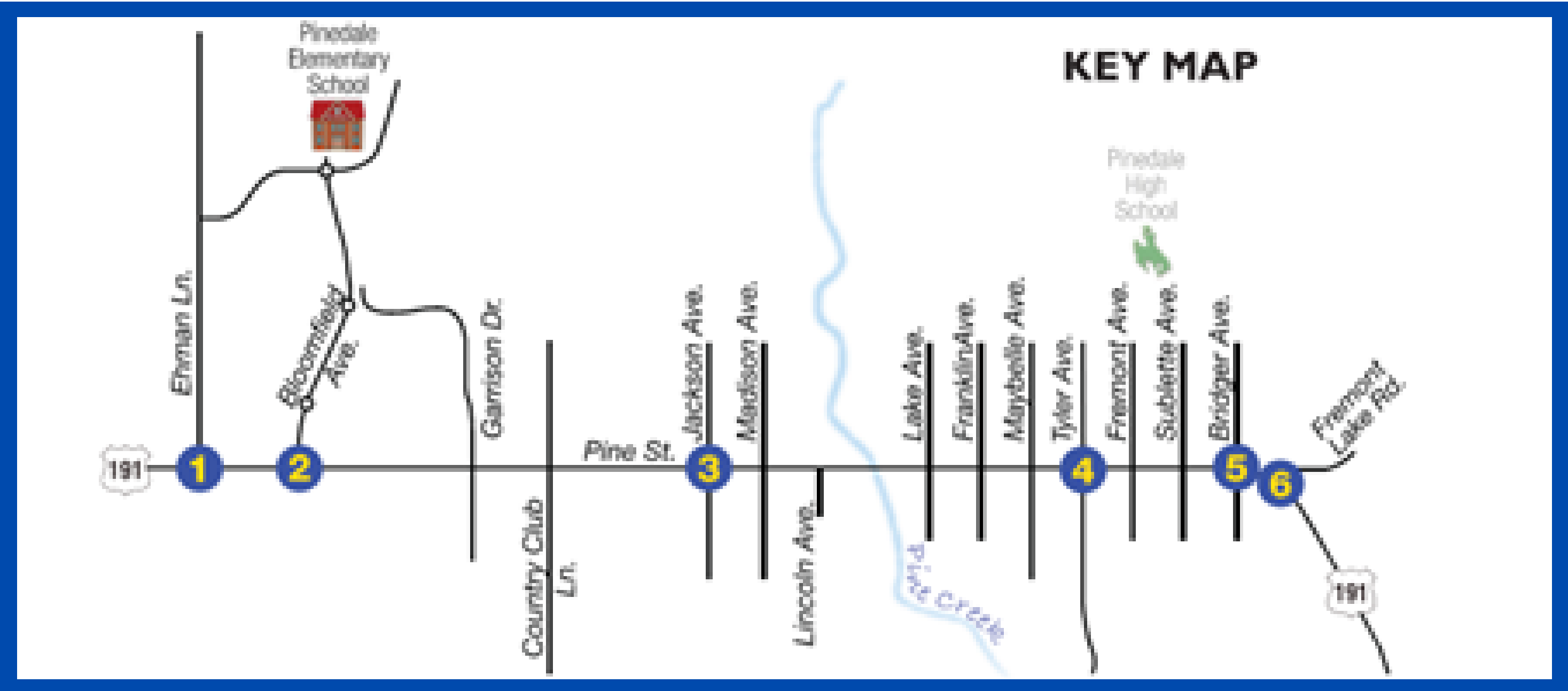
Control Delay (s/veh)	Level of Service
≤10	A
>10-15	B
>15-25	C
>25-35	D
>35-50	E
>50	F

### Analysis Time Period

Peak AM and PM hourly intersection traffic count data was analyzed to calculate the Level of Service. This best represents high travel time periods when LOS is most impacted.

Based on use of StreetLight Data, July and March were selected for the study analysis.

March represents typical school year traffic.



Given current traffic conditions, the turning movements on Pine Street operate between an LOS B and C.

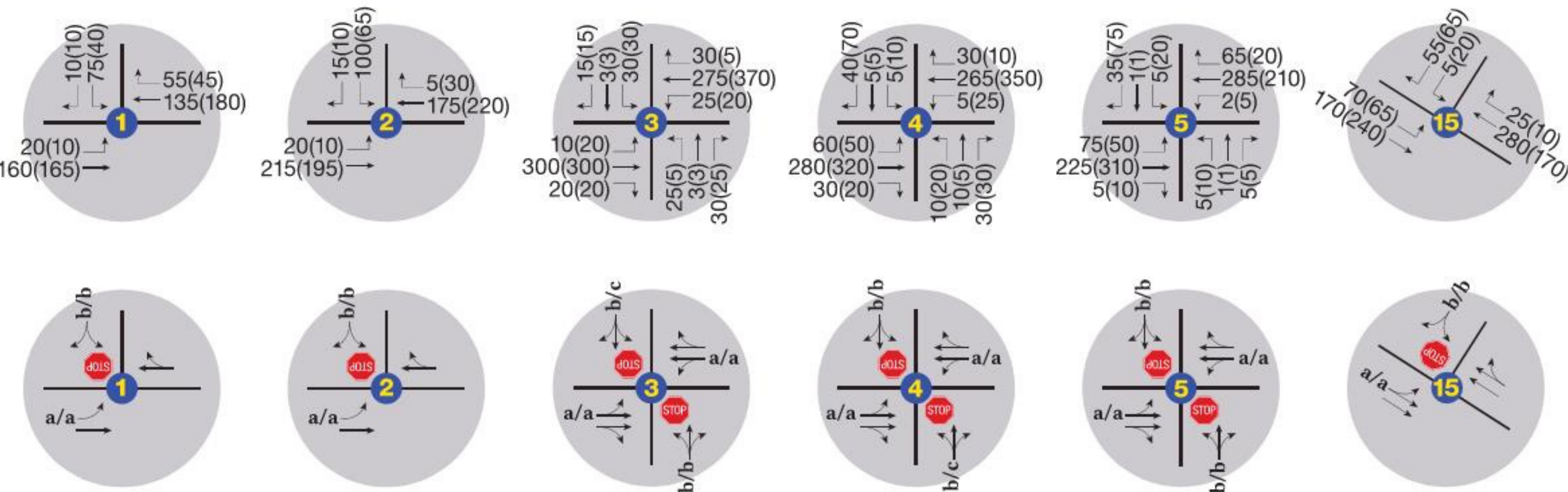
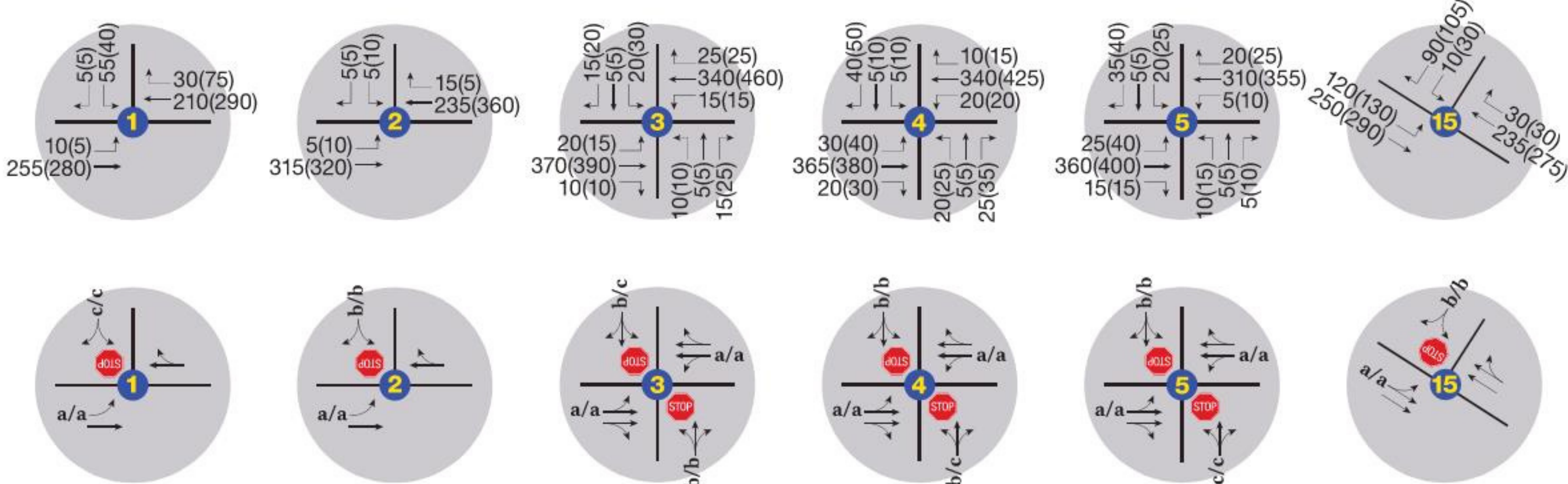
If Pine Street and the community network remains as is, come 2045, turning movements onto Pine Street will fall to an LOS C - F range.

July

March

Existing

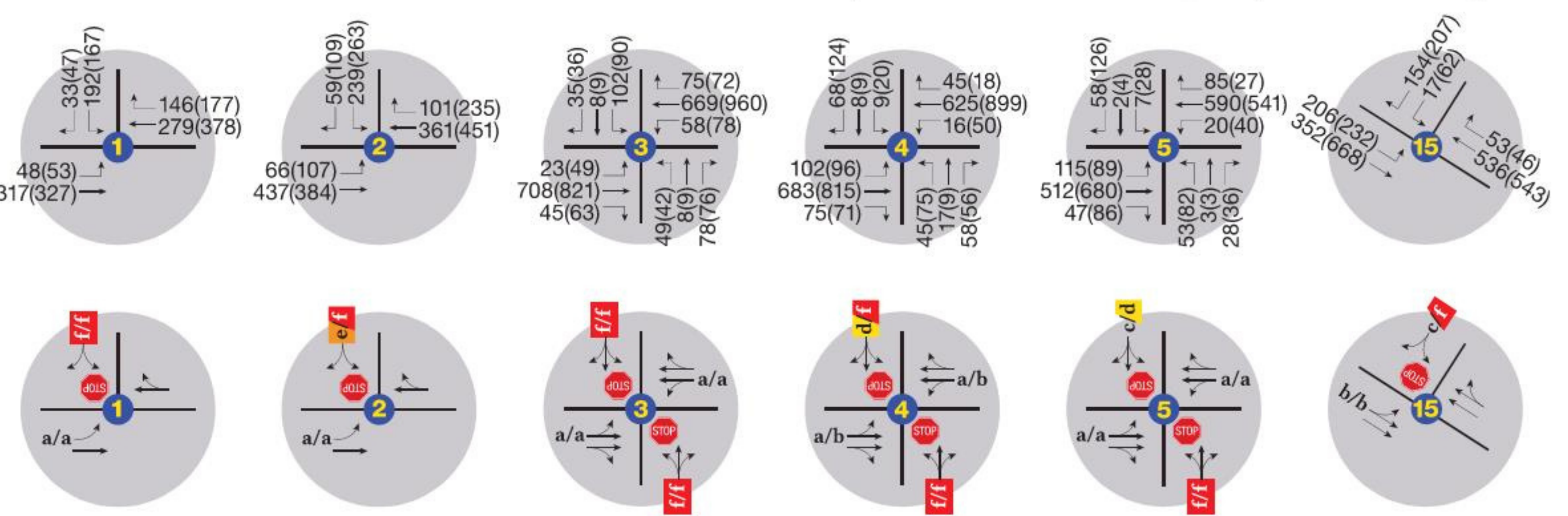
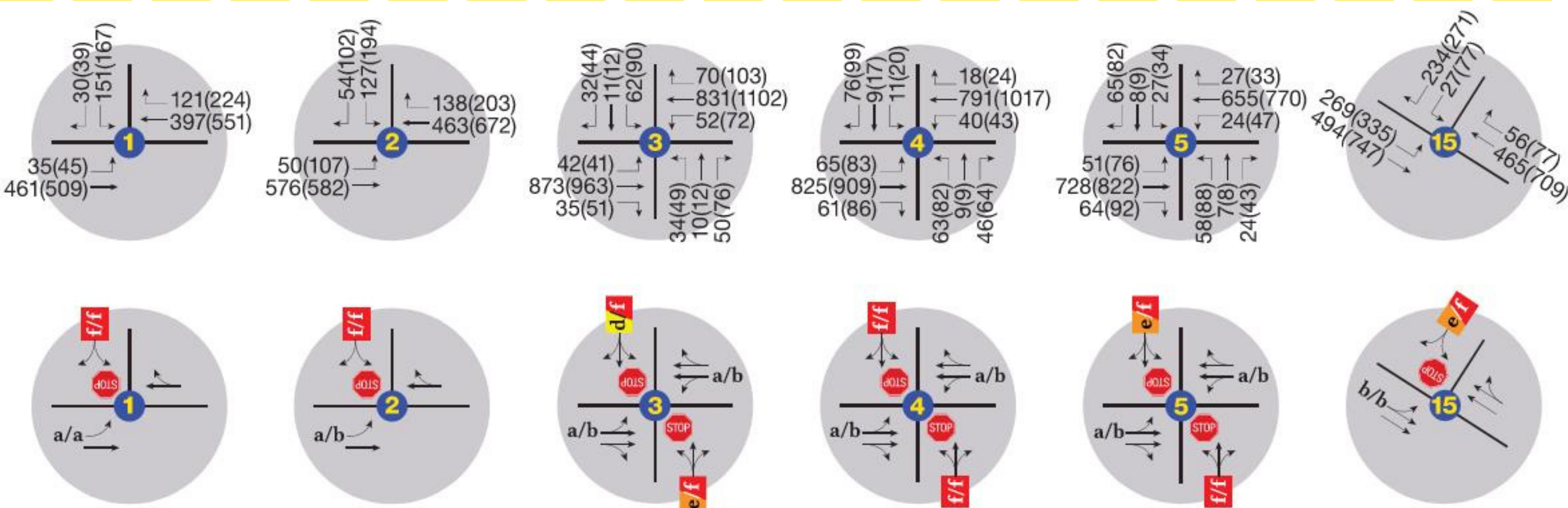
2022



- LEGEND**
- XXX(XXX) = Midday(PM) Peak Hour Traffic Volumes
  - x/x = Midday/PM Peak Hour Unsignalized Intersection Level of Service
  - d = Level of Service D
  - e = Level of Service E
  - f = Level of Service F
  - STOP = Stop Sign

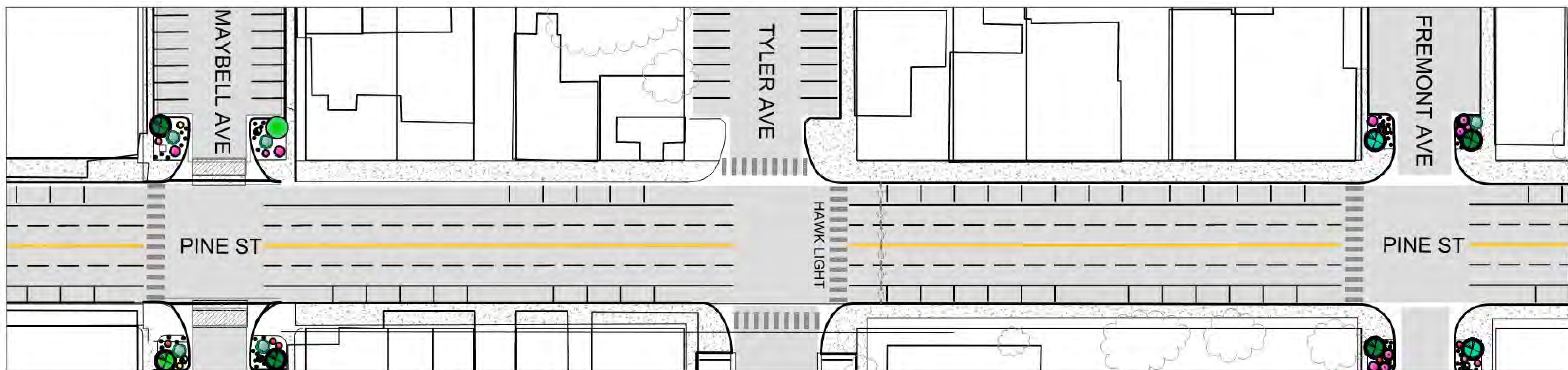
Future

2045





# Pine Street Existing Conditions



## Pros

- Meets need of current capacity
- Adequate parking
- Wide lanes allow for storage of snow in the median
- Pinedale character with wayfinding signs, gateway signs, benches, trash cans, murals, cabochons, flower barrels, etc.

## Long Term Considerations if Selected

- Alternative Routes will be important
- Will not meet projected capacity needs
- Does not address safety issues

## Cons

- Wide travel and parking lanes
- Speeding
- Long length for pedestrian crossings
- Poor sight distance for turning onto Pine Street
- No center left turn lane; rear end crash potential increases as traffic increases
- As traffic volumes increase, the level of service for turning movements will decrease
- Will not be able to maintain growth and future capacity (with intersections and accesses)
- No room for future signal
- ADA ramps not adequate
- Does not accommodate bicycles
- Multiple accesses along roadway, increasing conflict points



# Pine Street Physical Characteristic Considerations

## Pedestrian Crossings/Bulbouts

- Bulb-outs extend the curb line out into the parking lane, which reduces the effective street width.
- Reduce pedestrian crossing distance, improve the ability of pedestrians and motorists to see each other, and reduce the time that pedestrians are exposed to traffic.
- Prevent motorists from parking in or too close to a crosswalk and from blocking a curb ramp.
- Motorists are encouraged to travel more slowly at intersections or midblock locations with curb extensions, as the restricted street width sends a visual cue to motorists. Turning speeds at intersections are reduced with curb extensions (curb radii should be as tight as is practicable).
- Curb extensions are only appropriate where there is on-street parking. Curb extensions must not extend into travel lanes, bicycle lanes, or shoulders. The turning needs of larger vehicles such as school buses need to be considered in curb extension design.
- Source: <https://safety.fhwa.dot.gov/saferjourney1/Library/countermeasures/23.htm>



## Parking

- Parking is provided on nearly the full length of Pine Street, with the exception to intersections and accesses.
- Parking spaces are not defined with striping
- The parking widths are 11', these can be reduced to 9-10', which would make cars park closer to the curb and improve sight distance
- Most of the parking on Pine Street takes place between American Legion Park and Sublette Avenue
- Because of parking on Pine Street, this can make turning left onto Pine Street difficult at some intersections (such as Franklin, Maybell and Tyler)



## Intersection Sight Distance

- In order to safely turn right, turn left or travel thru from a minor street approach from Pine Street, it is important that the driver can see oncoming traffic on the major road.
- The addition of bulbouts at intersections can improve sight distance by limiting parking at intersections and by providing space for motorist to pull forward to the intersection.
- To improve sight distance, some parking spaces may need to be removed



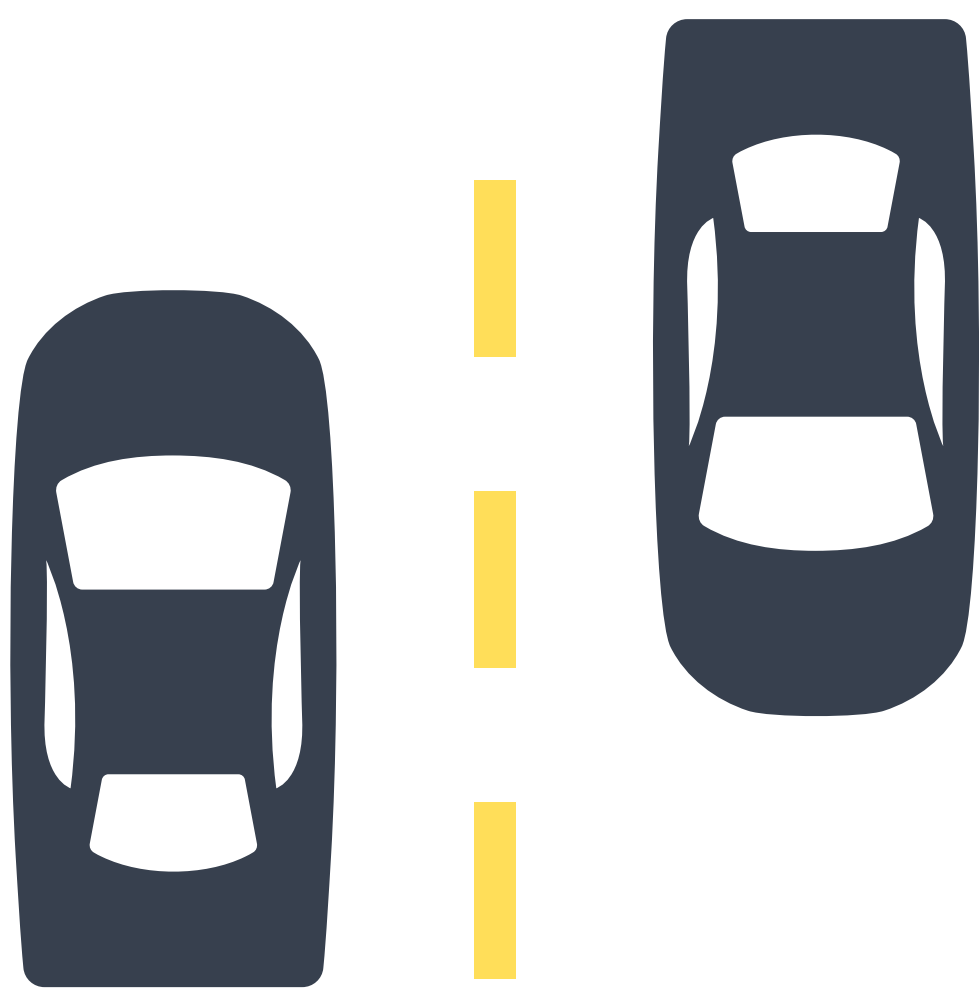
## Snow Plowing

- Need to accommodate for snow plowing and storage
- Snow is currently pushed into the middle of the road and may take up approximately 5-8 feet of road width, causing motorists to adjust travel lane use



## Lane Widths

- Current lane width varies between 12-ft and 13-ft.
- WYDOT prefers a 12-ft travel lane to safely accommodate trucks, since Pine Street is also a highway.
- If lanes were reduced to 11-ft this may help slow drivers down.



## Continuous two-way left turn lanes

- Two-way left turn lanes remove left turning vehicles from the through lanes, which can reduce delay to through vehicles and can lead to a reduction in rear-end and sideswipe collisions.
- TWLTLs provide spatial separation between opposing lanes of traffic, which can lead to a reduction in head-on collisions.
- Two-way left turn lanes can also function as a lane for emergency vehicles



## Left turn lane at intersection & Traffic Signal

- The addition of a left turn lane at selected intersections will allow for turning vehicles to queue and not delay through vehicles
- A left turn lane will allow for future installation of a signal. For a signal to be effective a left turn lane will need to be available on Pine Street.

## Bike Lanes

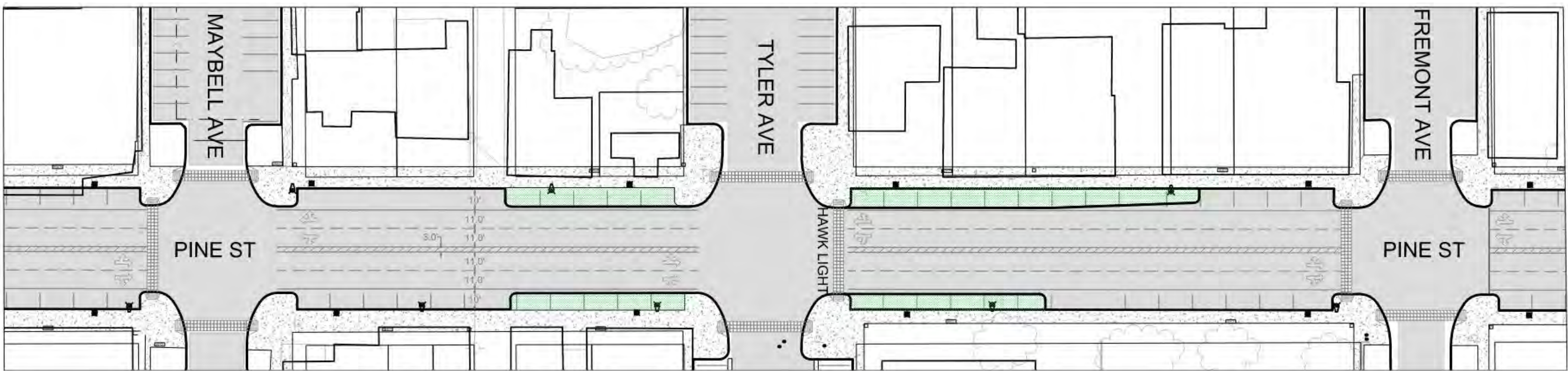
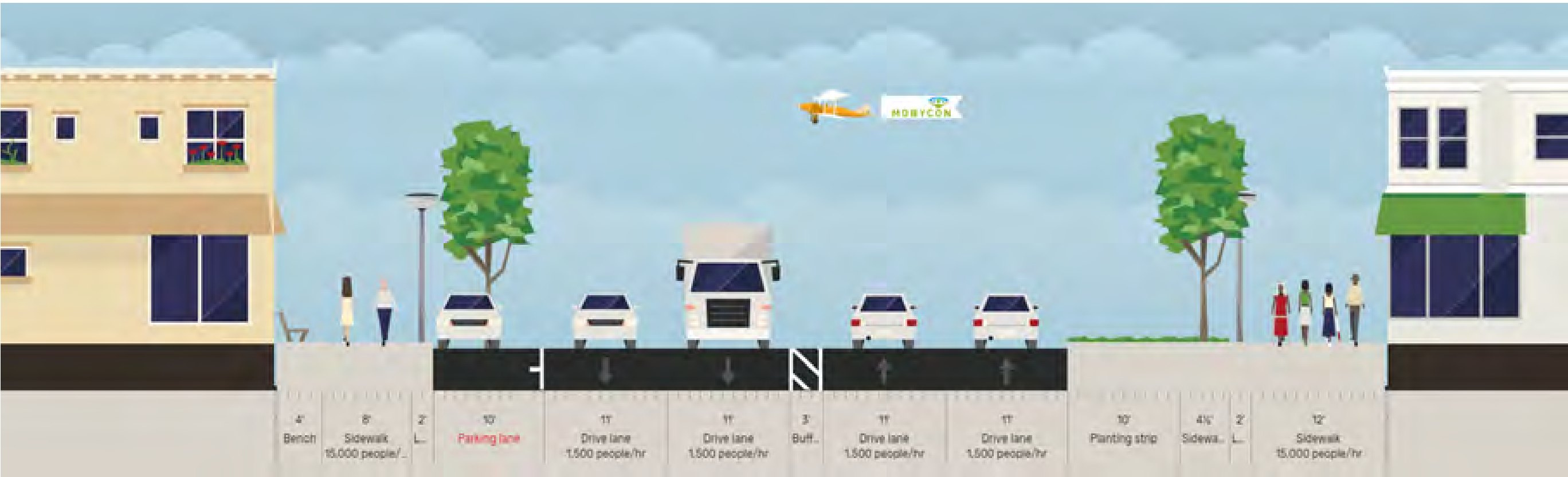
- Should Pine Street be used to accommodate bicyclists or should bike connections be provided on side streets?
- Bike lanes could be accommodated with almost all of the Pine Street options presented
- The bike lane would need to be placed between the travel lane and the parking lane to allow for bulb outs. This is a safety concern with vehicle traffic and vehicles crossing the bike lane to park and return to traffic, as well as opening car doors.





# Pine Street Alternatives

## Maintain 4-lanes with intersection and lane improvements



### Pros

- Bulb-outs could be added to improve pedestrian safety
- Bulb outs and narrower lanes can result in traffic calming
- Improved sight distance at intersections
- Larger median (such as 3') could allow for more snow storage

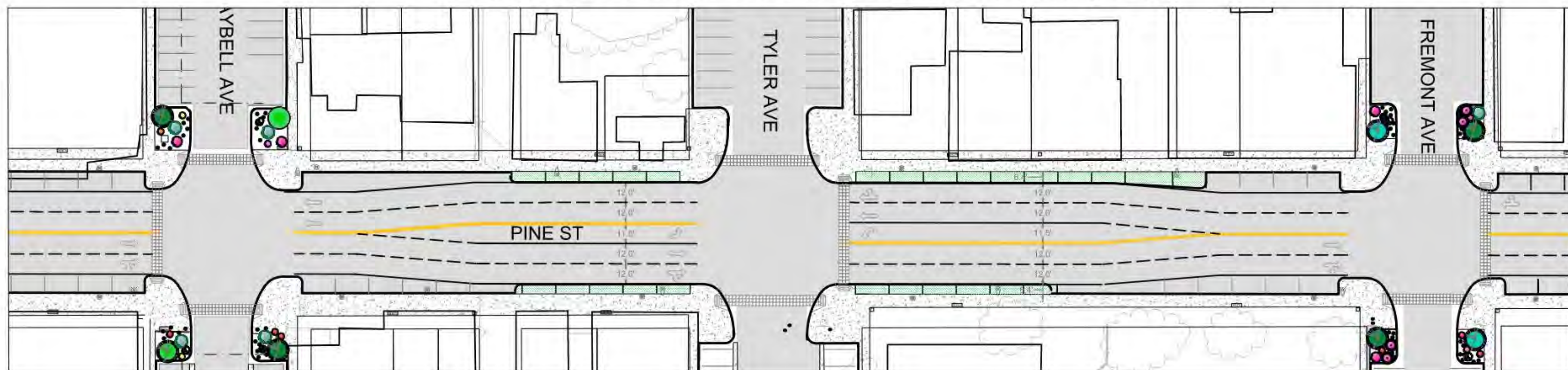
### Cons

- No center left turn lane; rear end crash potential increases as traffic increases
- As traffic volumes increase, the level of service for turning movements will decrease

### Comments

- Alternative Routes will be important
- Will not accommodate future signal

## 4 and 5 lane hybrid Alternative



### Pros

- Provides adequate capacity
- Provides turning lane at key intersections

### Cons

- Will likely displace parking (or very narrow parking)
- Increase exposure for crossing pedestrians
- Bulb-out benefit will be minimal
- Minimal opportunities to improve multimodal safety/comfort

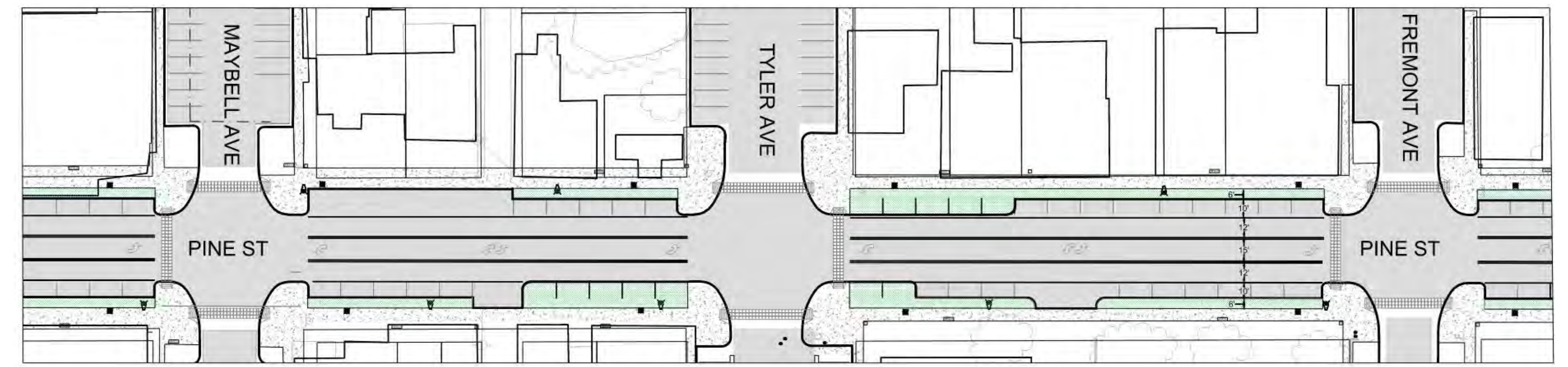
### Comments

- Alternative Routes will be important
- Will accommodate future signal



# Pine Street Alternatives

## 3-Lane Alternative



### Pros

- Improves safety with addition of center left turn lane
- Reduces crossing exposure for pedestrians
- Bulb-outs could be added to improve pedestrian safety and traffic calming
- Provides additional Pine Street width for other uses, such as multimodal facilities, diagonal parking, landscaping and/or snow storage

### Cons

- Reduces capacity of highway
- May result in some congestion during peak times

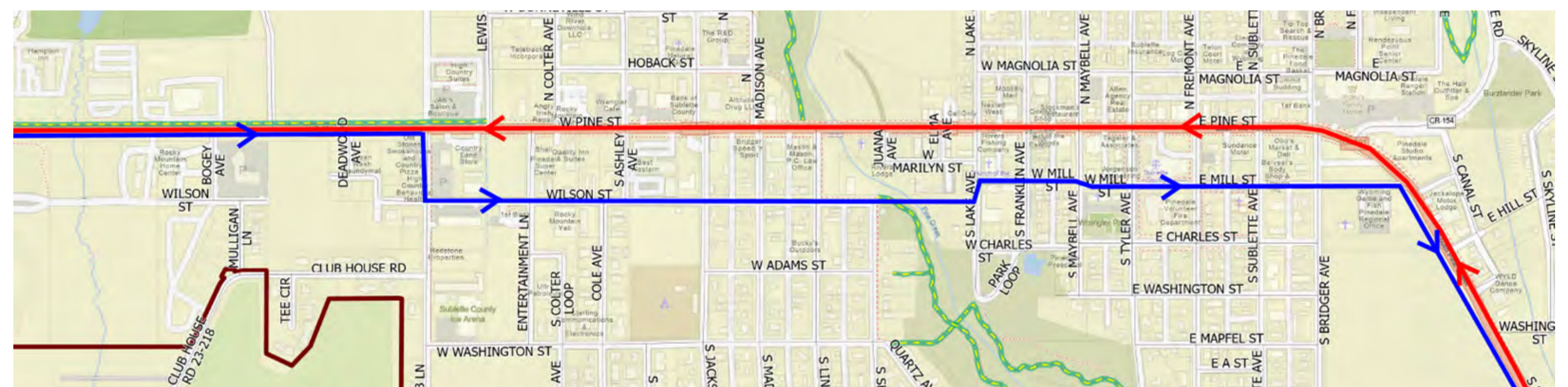
### Comments

- Alternative routes will be very important, including bypass route
- May not function well when/if a signal is added (back-up along Pine Street)
- Could consider only transitioning to 3 lanes through downtown where multimodal activity is highest



Could also accommodate bike lanes

## Pine Street One-way Couplet



### Pros

- Provides more than adequate capacity
- One-way streets could be safer, provided speed is controlled
- May open up other properties to commercial development
- Provides additional Pine Street width for other uses, such as multimodal facilities, diagonal parking, and/or snow storage
- Bulb-outs could be added to improve pedestrian safety and traffic calming
- Crossing and turning to/from the highway will be easier

### Cons

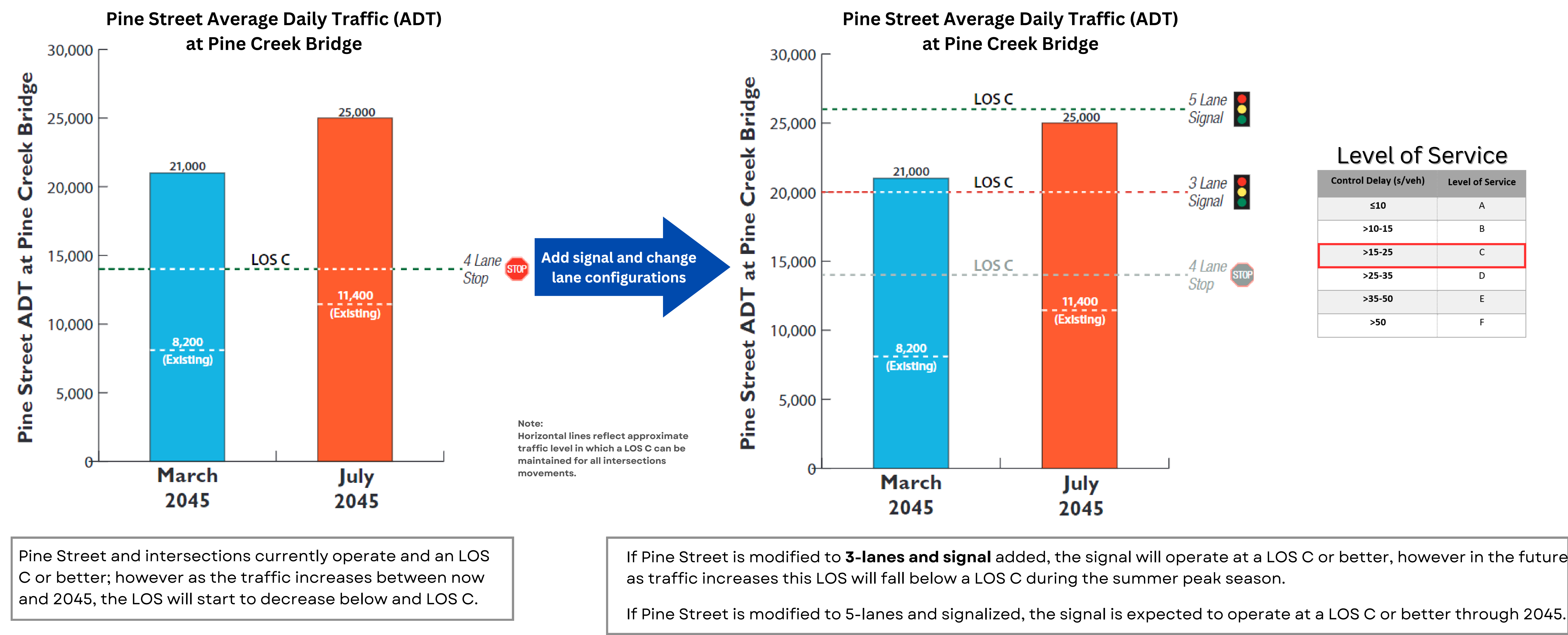
- Will reduce traffic exposure to current Pine Street businesses
- Other direction of US 191 would require local street improvements (more study is needed)
- More lane-miles for WYDOT
- Will produce some circuitous travel
- Could require some multimodal trips to cross two moderately busy streets

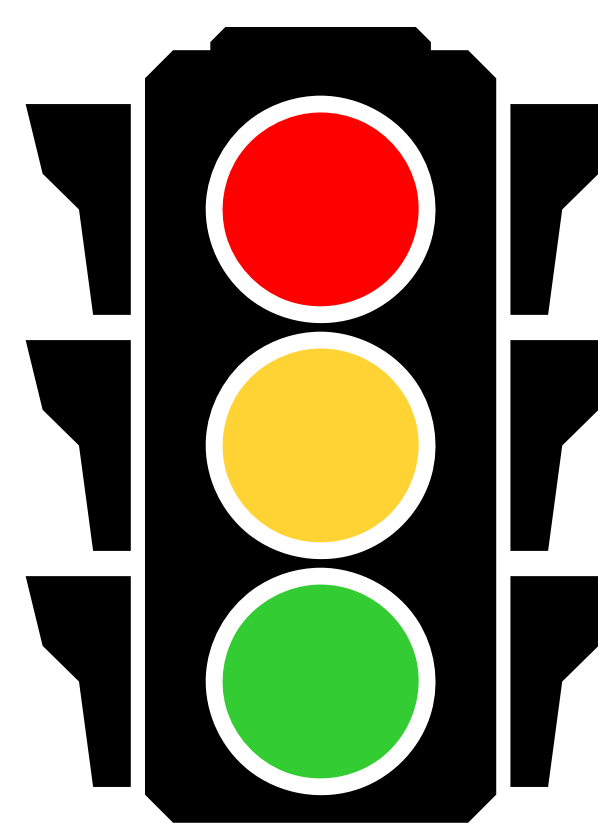
### Comments

- Could consider widening a short section along Pine for a featured signal and leave the rest at 4 lanes

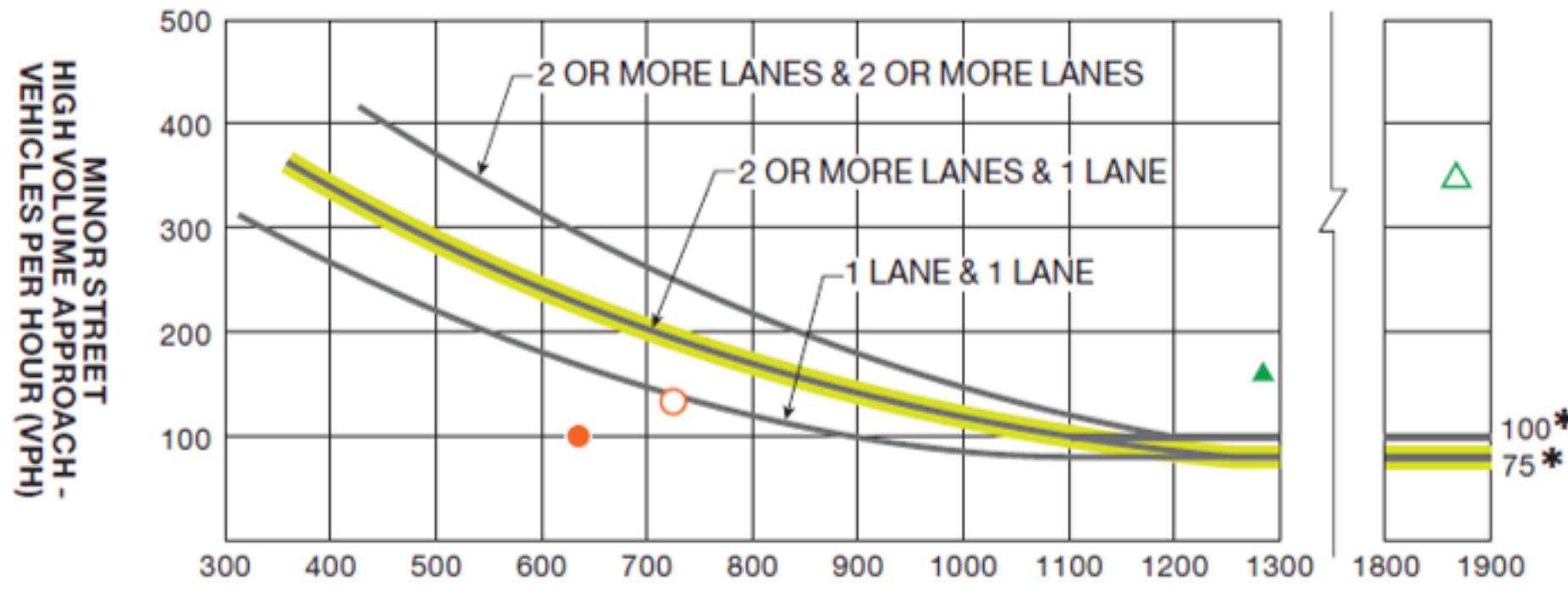


# Pine Street LOS C Daily Traffic Thresholds



- ## Traffic Signal Considerations
- 4-lanes does not accommodate a traffic signal, if all lanes are combined movements. If one wants to turn left from Pine Street the vehicles behind this vehicle would be delayed
  - 3-lane and 5-lane option at an intersection would accommodate a signal
  - Would allow for safe turning movements to/from Pine Street
  - Safe pedestrian crossing point
  - Safe bicycle crossing point
  - Can set with different cycles to accommodate summer vs winter traffic patterns
  - Can provide gaps in traffic, to assist with level of service at other intersections
- 

## Pine Street and Fremont Lake Rd. Intersection



- ### Intersection Key Information
- Entry point into Town
  - Access to Ridleys, hospital, recreation, etc.
  - Several accesses near intersection
  - Alignment could use improvement
  - Operates like a T intersection
  - Minimal draw from other Town streets
  - Unsafe crossing location



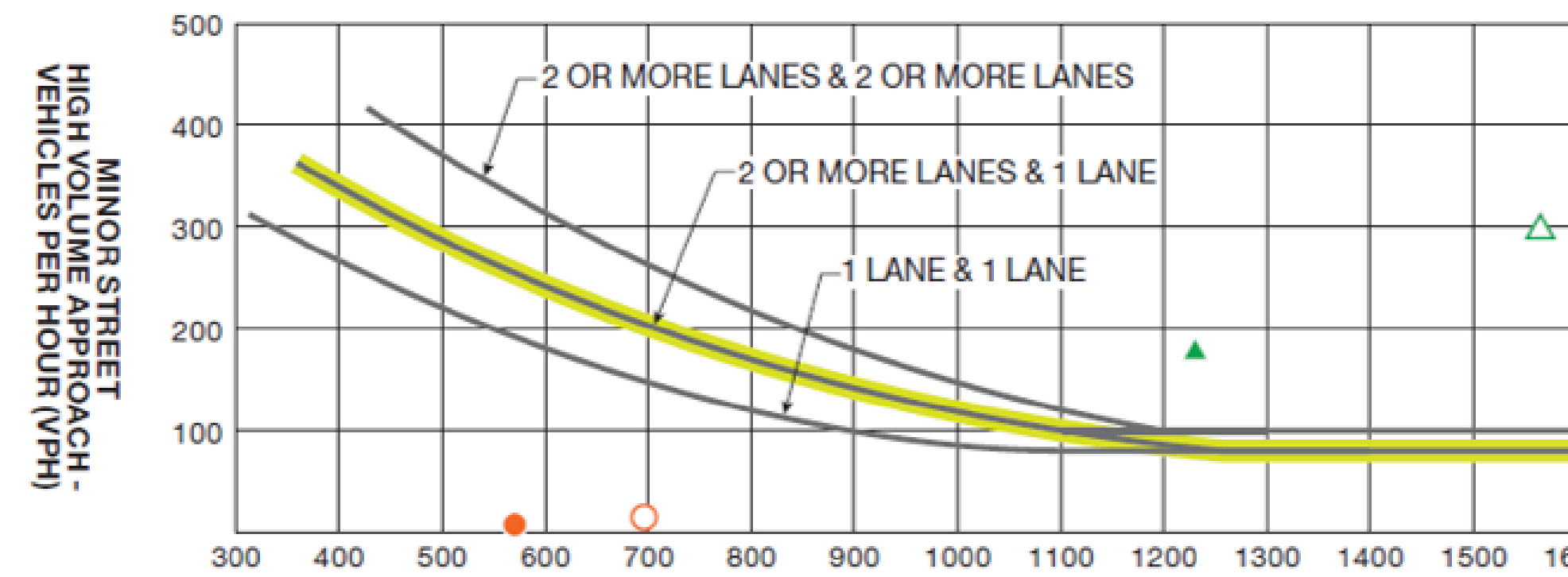
Rather than installing an intersection signal, an alternative option may include a roundabout and/or realigning Fremont Lake Road.

## Signal Warrant Analysis

A warrant is a condition that an intersection must meet to justify the installation of a signal. The Manual on Uniform Traffic Control Devices (MUTCD) specifies eight "traffic control signal needs studies", known as warrants. However, "the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal" (MUTCD, 4C.01). Other alternatives to signals should also be considered.

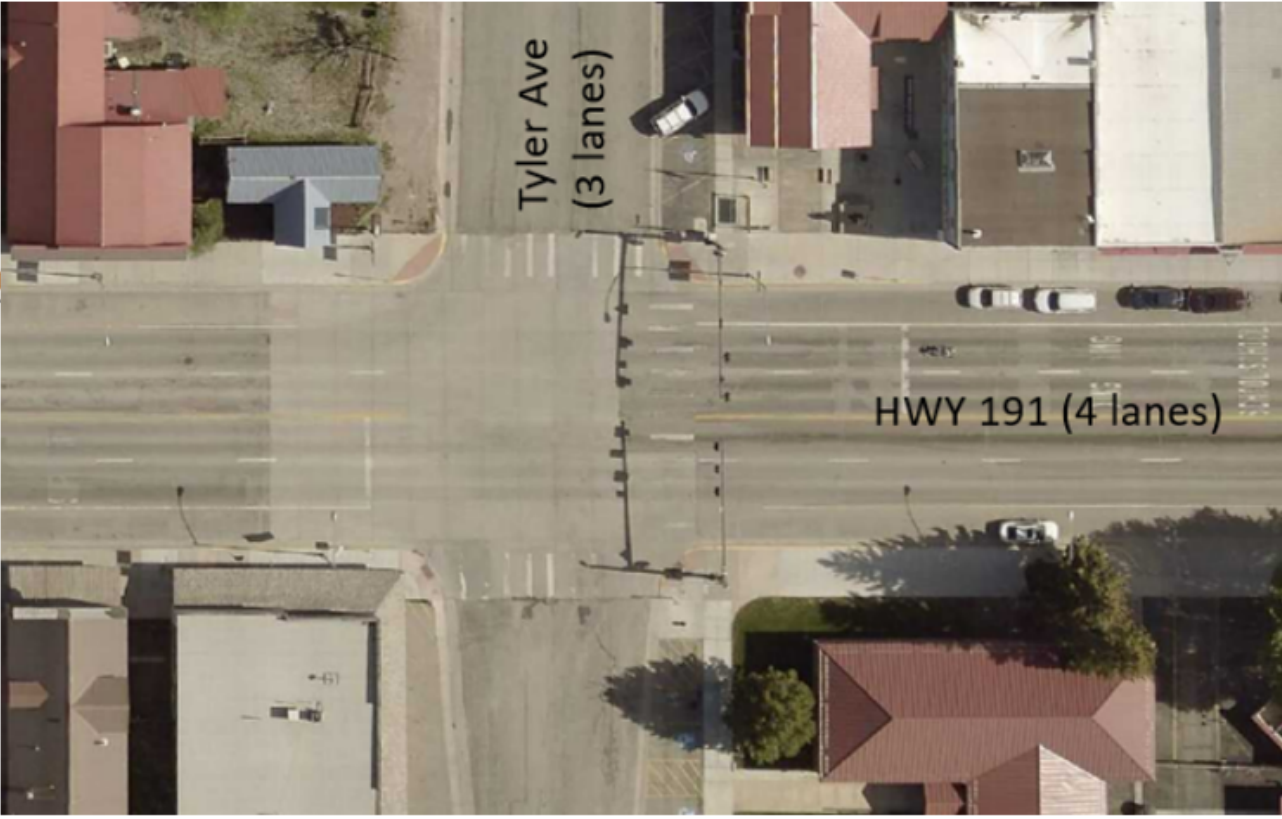
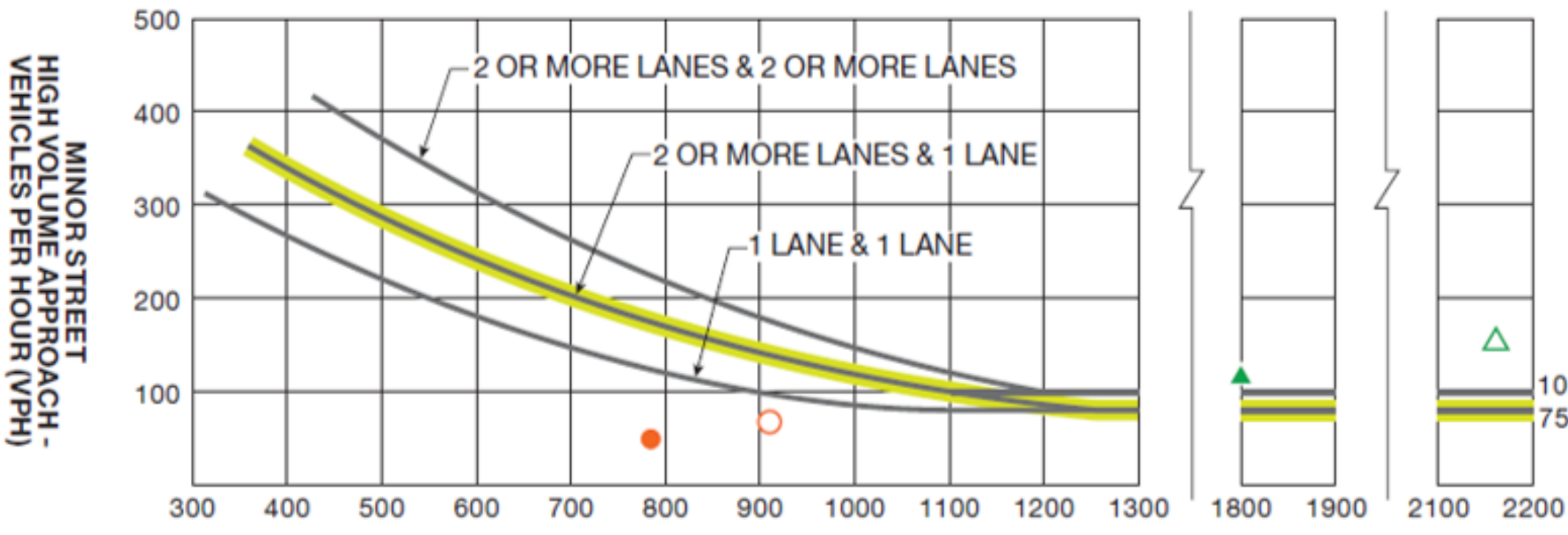
Various intersections along Pine Street were reviewed during peak hour conditions to see if a warrant is met. Of the intersections analyzed, a signal is not justified. Come future development and regional growth, some intersections may warrant signals.

## Pine Street and Bloomfield Ave. Intersection



- ### Intersection Key Information
- Does not currently see much July Traffic from Bloomfield, but does see high traffic during school peak hours. Expected to see significant increase in traffic with development in Bloomfield.
  - Operates like a T-intersection.
  - May benefit from intersection improvements, harbor lane, widening bridge on Highway
  - Safe pedestrian crossing needed

## Pine Street and Tyler Ave. Intersection



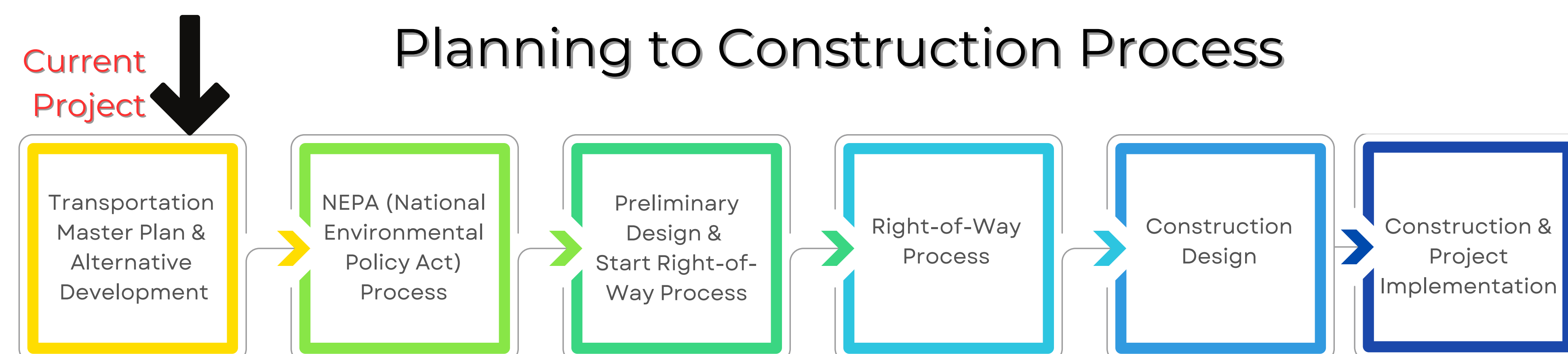
- ### Intersection Key Information
- Central location, on east side of Pine Creek
  - Tyler is a Town/County collector
  - Could draw additional traffic from side streets (Franklin, Maybell, Fremont & Sublette)
  - Safe Routes to School crossing
  - Tyler has turning lane space available



# Network Connector Alternatives

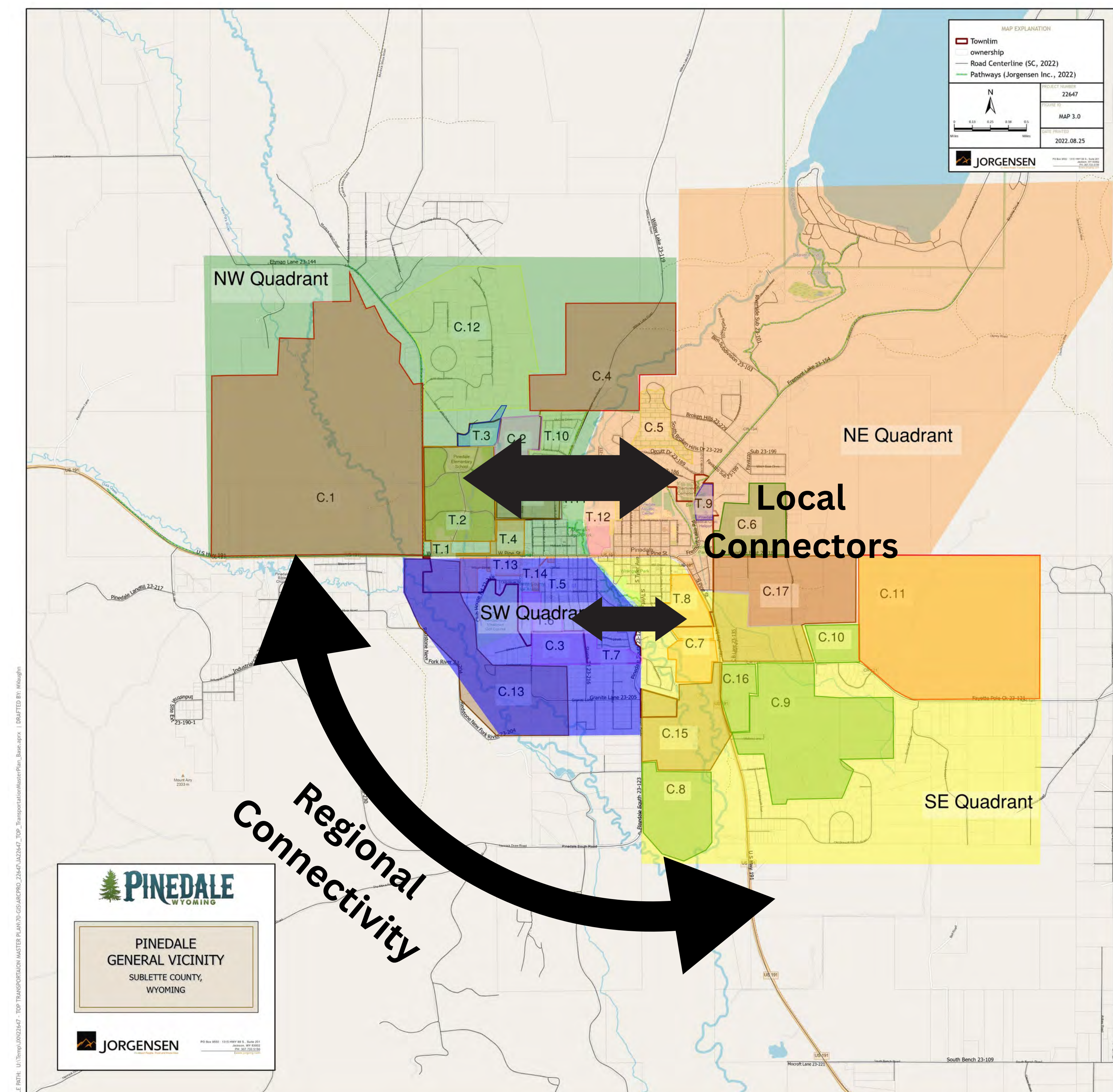
## Why?

- Provide alternative routes which do not include Pine Street
- Allow for redundancy of transportation network and Pine Creek crossings
- Reduce truck traffic on Pine Street (with south regional connector)
- Maintain capacity and improve safety on Pine Street
- Improve the LOS on Pine Street
- Improves overall grid network
- Account for future vicinity growth and development



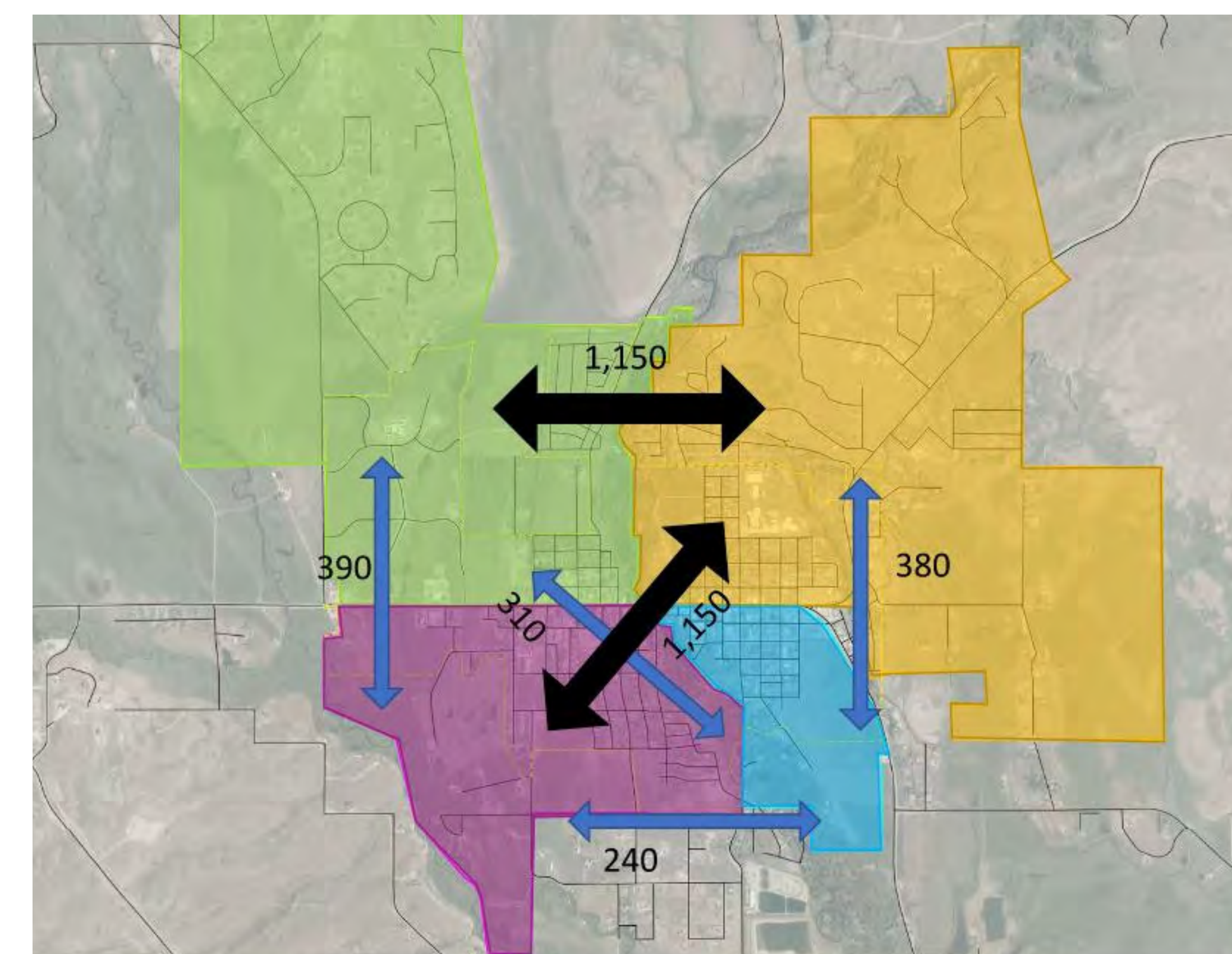
## NEPA (Condensed)

- Public Involvement
- Interagency Coordination
  - USFS, USACE, Wyoming Game and Fish, US Fish and Wildlife, BLM, DEQ
- Purpose and Need
- Evaluation of alternatives
- Impacts
  - Social impacts, community cohesion, relocation potential, churches and schools, controversy potential, energy, utilities, environmental justice, transportation, permitting
  - Archaeological and historic impacts
  - Natural resources: wetlands, waters of the US, water quality, wild and scenic rivers, floodplains, farmland, wildlife and habitat, threatened and endangered species, vegetation, ecosystem
  - Physical impacts: noise, air quality, hazardous waste sites and contamination, visual, temporary impacts
- Mitigation of environmental impacts



Connector between quadrants and a regional connector will benefit projected development and regional/tourism growth as well as remove truck traffic from Pine Street

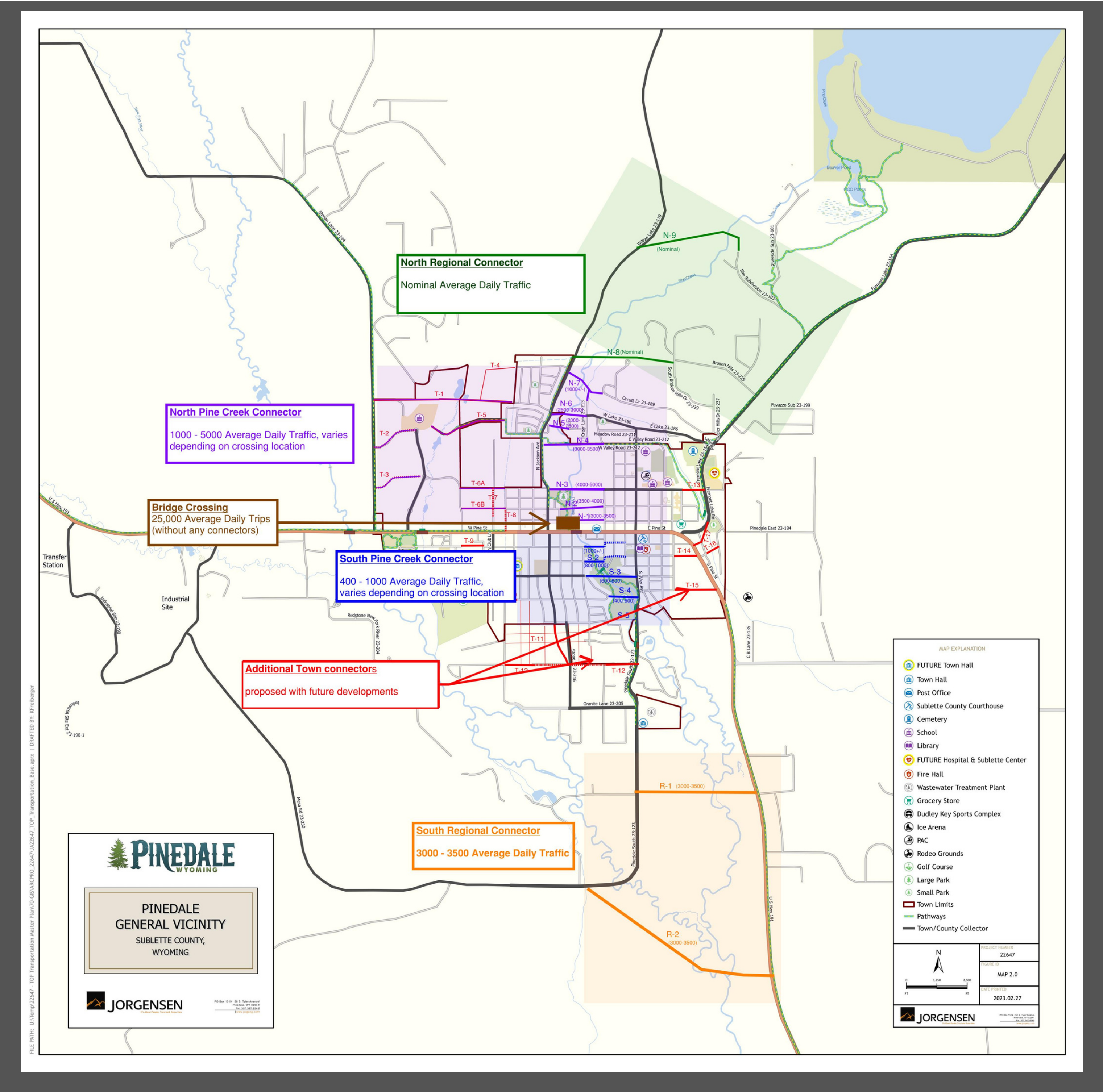
## Local Vicinity Trips



The Town of Pinedale is naturally divided into 4 quadrants with Pine Creek and Pine Street as the main boundaries. Using StreetLight Data and the incorporation of quadrants, Origin-Destination data was reviewed to understand where trips start and stop within the Town vicinity. Note that this does not include external trips, such as those driving to Town from Big Piney. This also does not include those who travel through town.



# Network Alternatives

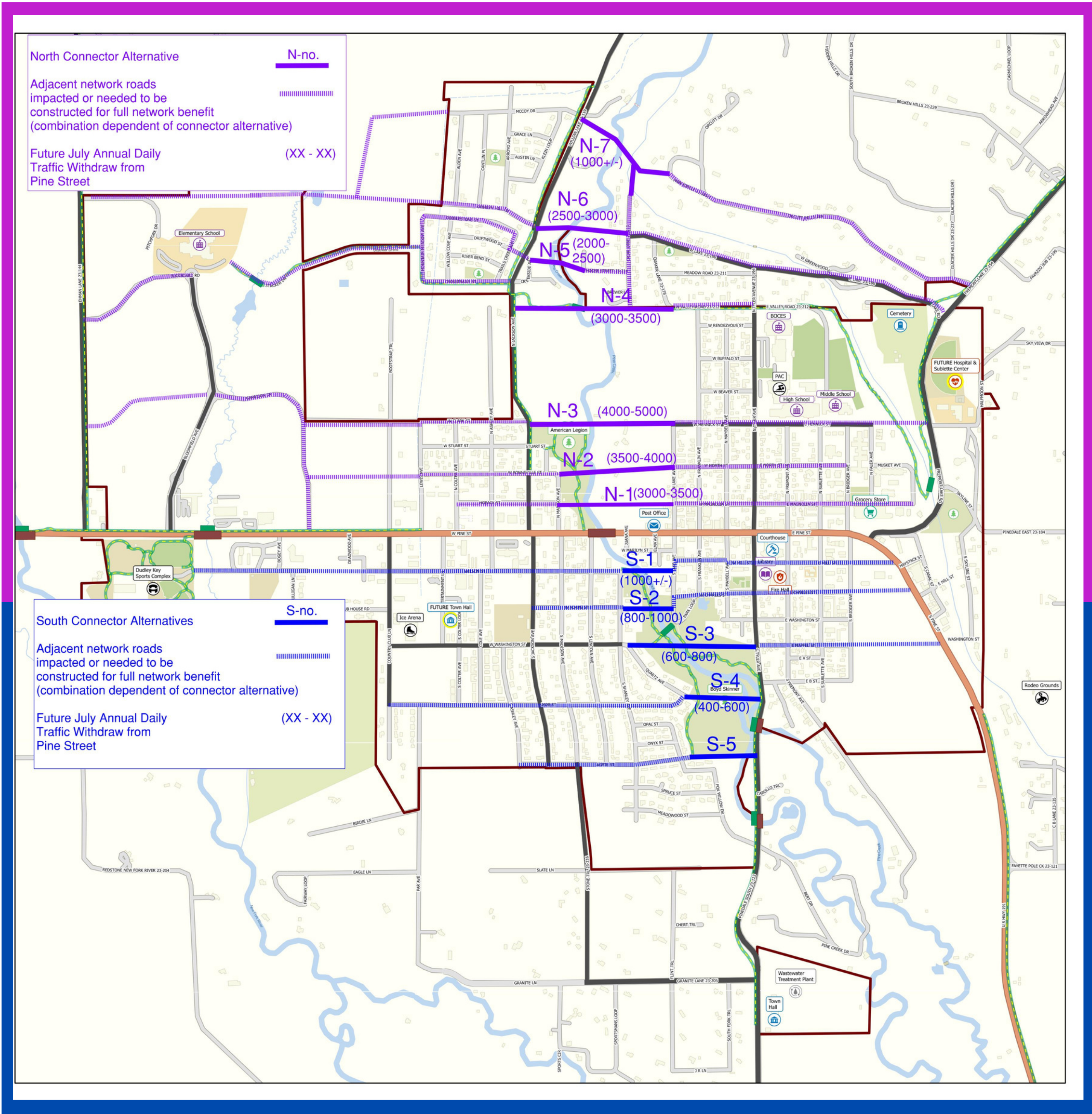


## North Pine Creek Connector

- Will be able to reduce traffic from Pine Street by 1000 – 5000 ATD in July (future, 2045), depending on selected alternative
- This will be most beneficial if the road network could be expanded further to the west and connect to Ehman Lane
- This will provide redundancy across Pine Creek

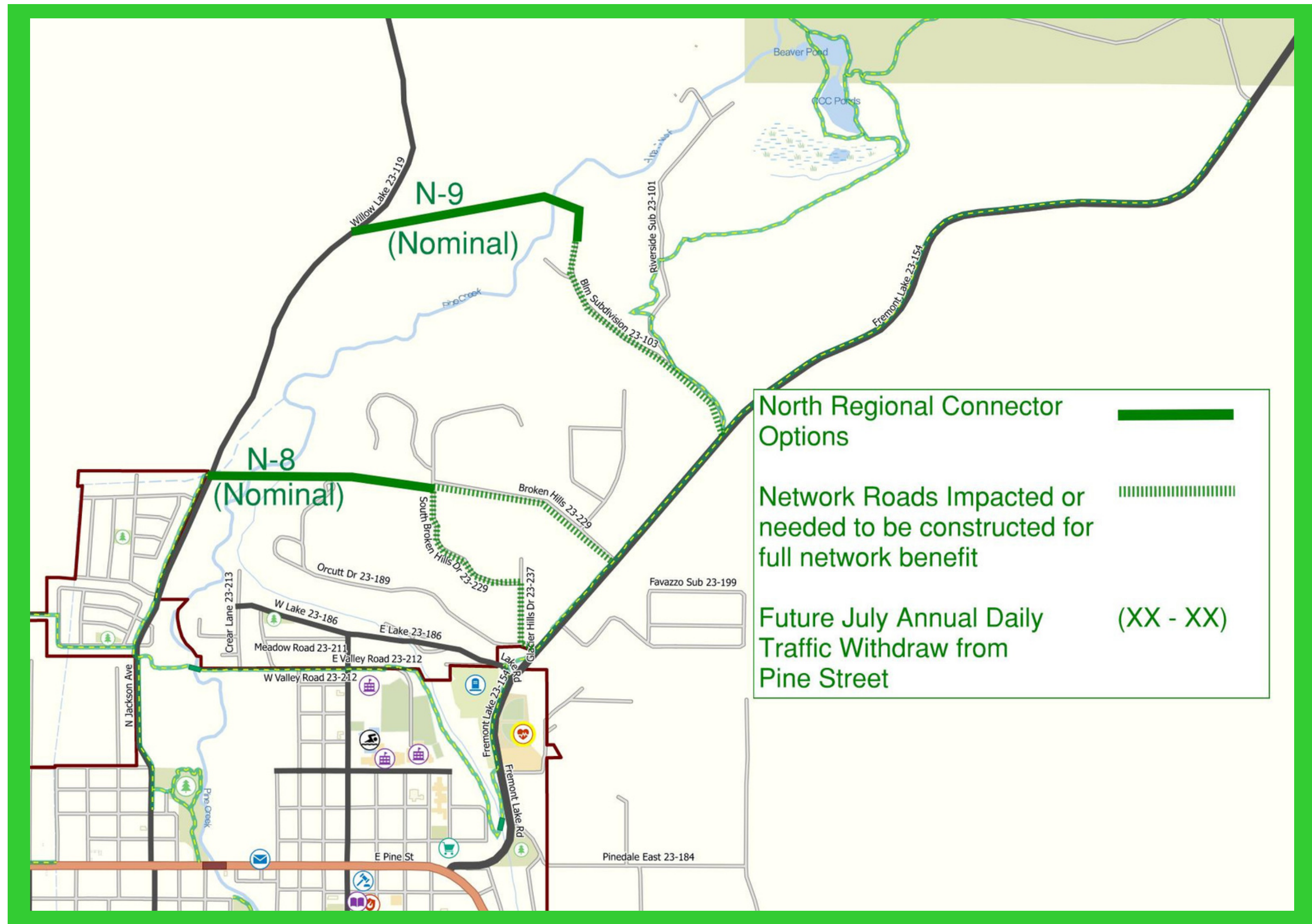
## South Pine Creek Connector

- Fox Willow is connection across Pine Creek on south side of Pine Street
- Additional network connections can add to the overall transportation network



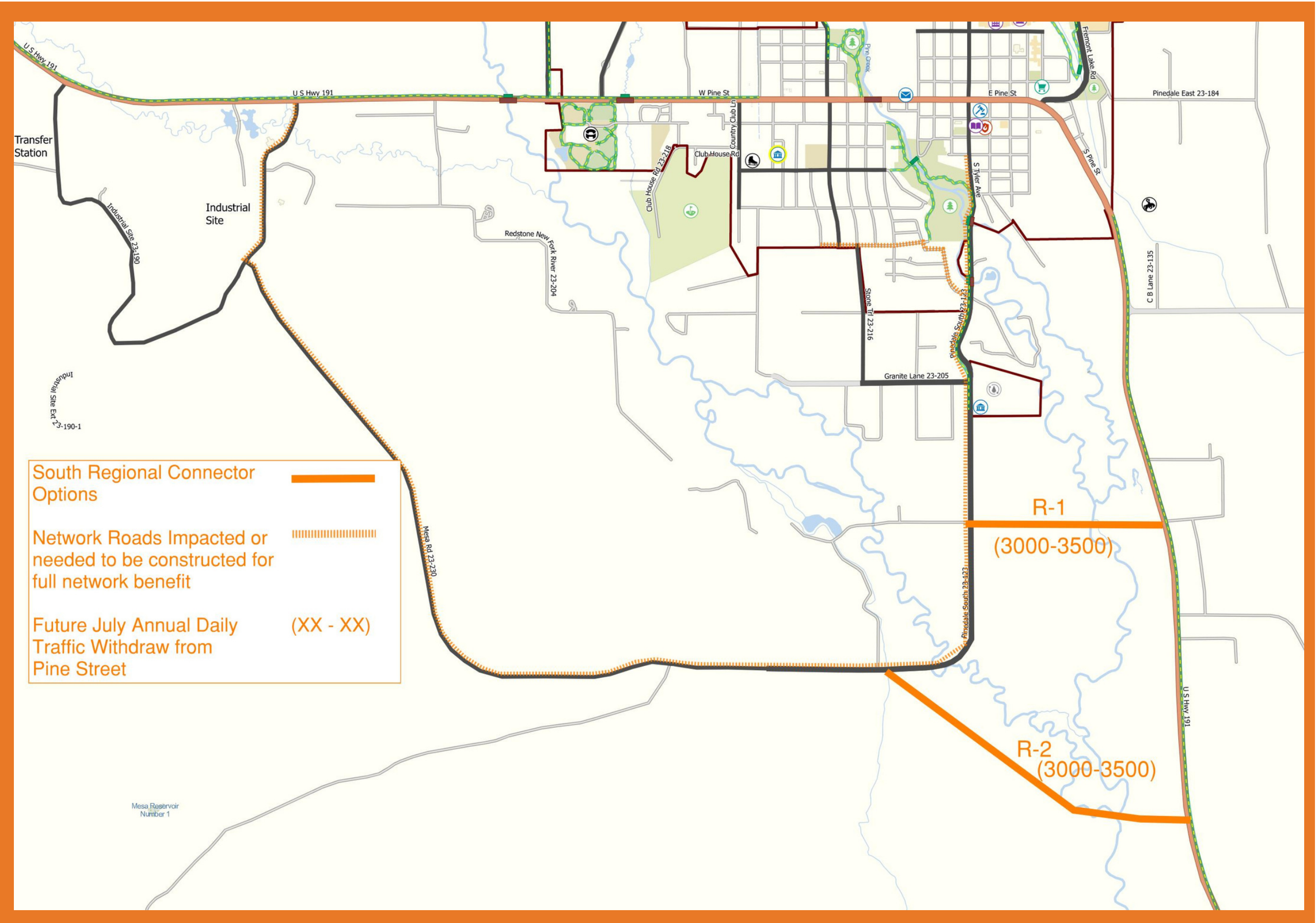
## North County Connector

- Provide connection between Fremont Lake Road and Willow Lake Road
- Does not directly connect to Town transportation network
- Could provide redundancy for northern connection



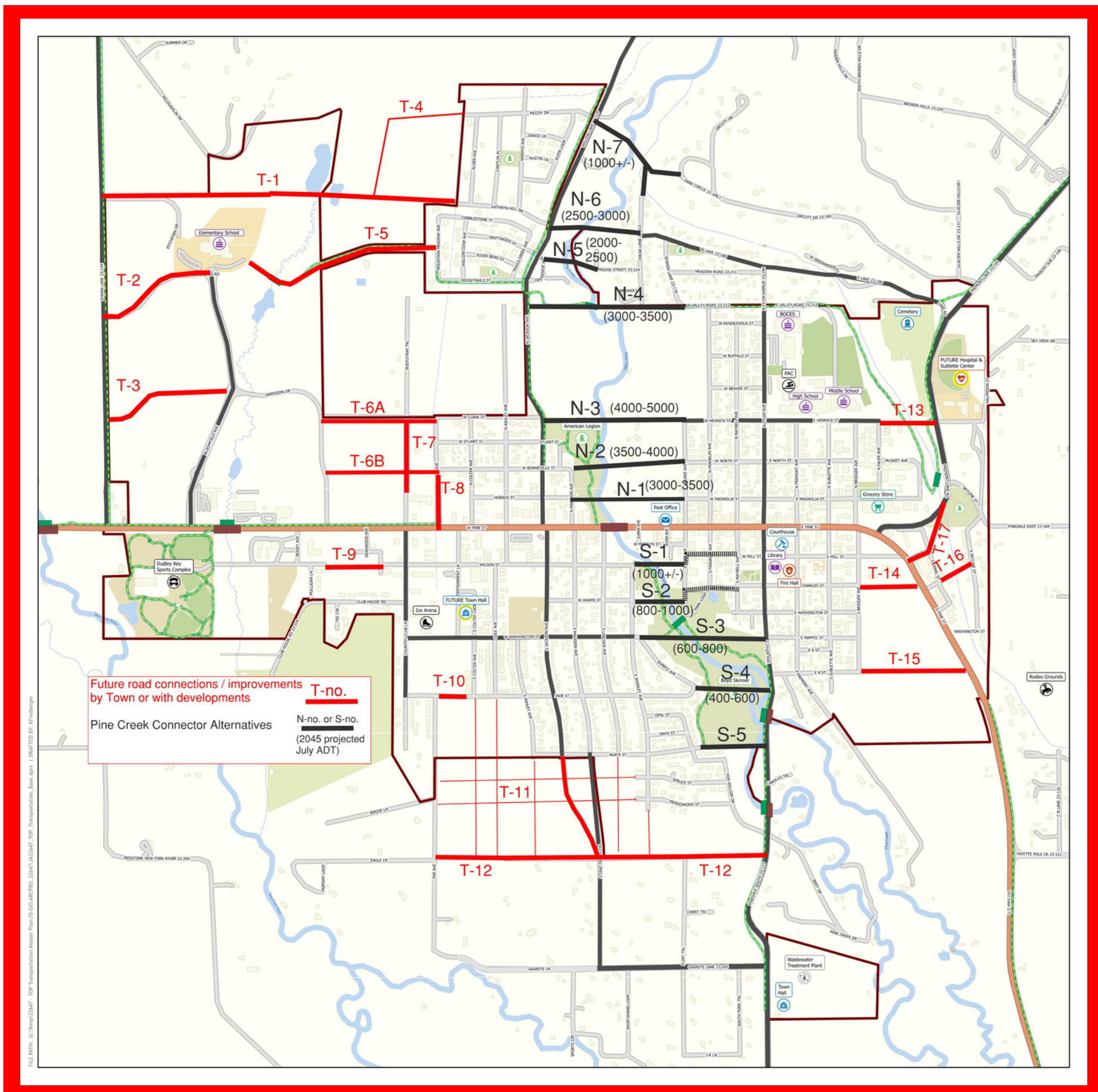
## South Regional Connector

- Connect Pinedale South Mesa Road (connects to South Tyler) to S HWY 191
- Residents who live in the Southwest quadrant of town to get onto S HWY 191 without accessing Pine Street in Town
- Allow trucks to bypass town, with use of the Mesa Road and Industrial Site Road
- Detour during parades and town events



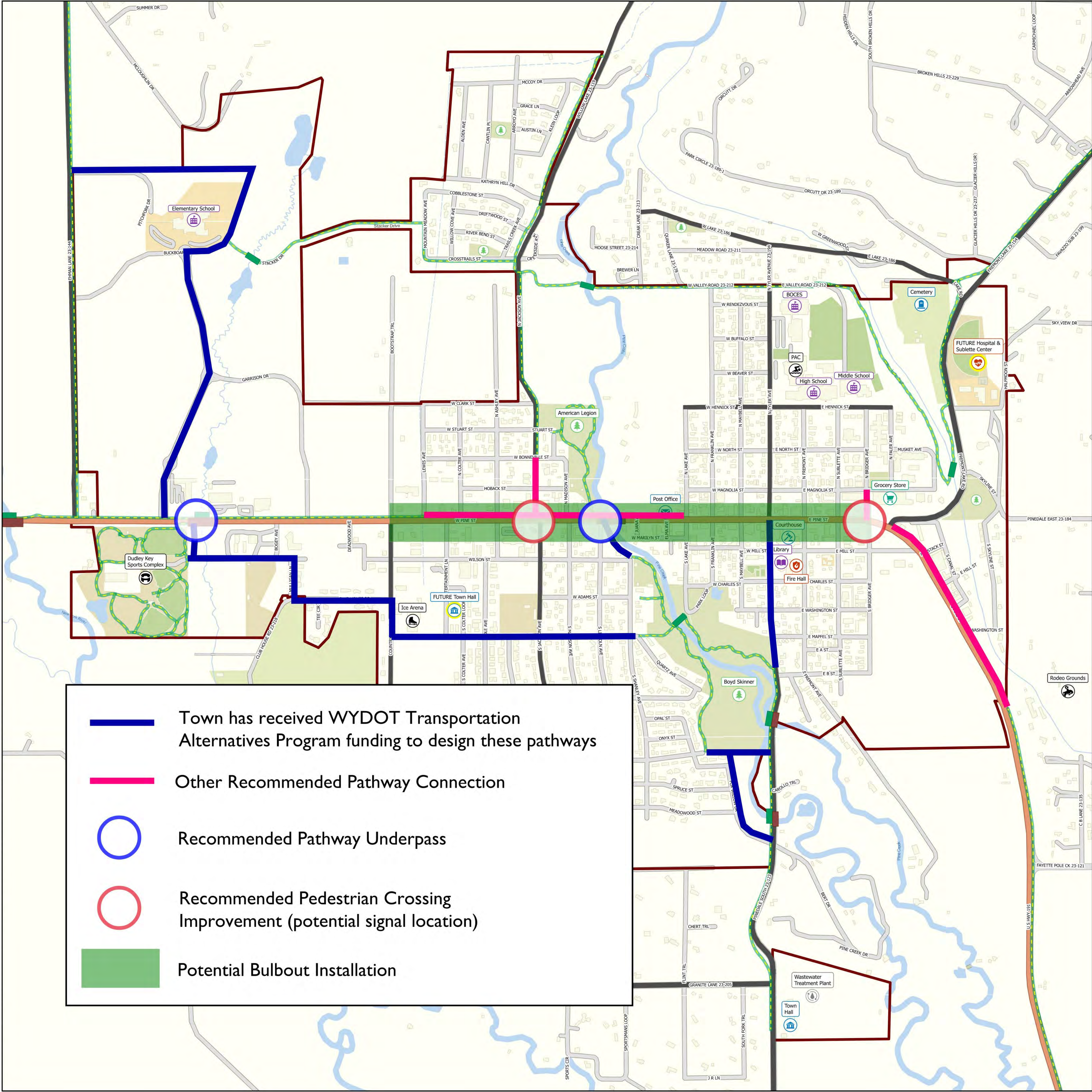
## Other/Development Connectors

- When development occurs, additional connectors should be included within the development to ensure connectivity to the existing network
- Improvements to incomplete right of way may require a developer to complete since the road will be utilized by the development





# Multimodal Considerations



## Pathway Considerations

- The Town has received funding to design several additional pathways and create a more connected network
- New road network connections could provide additional opportunities for pathways
- Pine Creek and Barber Creek provide great opportunities for constructing pathway underpasses of Pine Street

## Pine Street Considerations

- Pine Street is a major barrier for north-south bicycle and pedestrian travel - bulbouts and/or other crossing improvements like signals would be beneficial
- Bike lanes on Pine Street may not be comfortable for an average bicyclist given the traffic volumes and presence of on-street parking
- A town-wide pathway along one or both sides of Pine Street would make main town destinations much more accessible by active modes



# Thank You & Next Steps

**1** Develop preferred alternatives packages and draft Transportation Master Plan

**2** Receive Public feedback about the transportation alternatives through Friday, March 31st

**3** Present findings and receive any additional input from Town Council on Monday, March 13th (tentative)

**4** Receive input from Steering Committee prior to finalizing Transportation Master Plan

**5** Transportation Master Plan Adoption

**6** Continue with Highway 191 Pedestrian Safety Project

Thank you for attending and providing us with your comments and thoughts!

