Ada County Highway District

Kootenai Street Traffic Calming Concept Study: Orchard Street to Vista Avenue
Boise, Idaho
This traffic calming concept study and plan was a collaborative effort between the Ada County highway District and the City of Boise with assistance from HDR Engineering, Inc. Valuable input was contributed to this neighborhood plan by neighborhood residents and the general public.

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ACHD developed the Kootenai Street Traffic Calming Concept Study in response to a neighborhood resident petition to initiate an investigation on Kootenai Street between Orchard Street and Vista Avenue. The purpose of this study was to conduct neighborhood outreach, consider various traffic calming measures, and develop a conceptual plan of the appropriate treatments to be implemented. The concept developed as a result of the study will be provided within the existing roadway footprint.

Input received from:
- Neighborhood residents
- People who drive, walk, and bike along Kootenai Street
- City of Boise
- ACHD

384 total comments

Recommended Concepts:
- Narrow vehicle lanes from 11-ft to 10-ft
- Chicanes
- Bulb outs
- Sidewalks replacing parking lanes
- RRFB for school crossing at Johnson Street

Do you agree or disagree with recommended concept?

78% Agree
21% Disagree

Results from people who live on Kootenai Street

61% Agree
39% Disagree

Responses from Third Open House
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Kootenai Street Traffic Calming Concept Study

Introduction
The Kootenai Street Traffic Calming Concept Study is the result of neighborhood residents reaching out to ACHD, developing and presenting the necessary petitions to initiate an ACHD traffic investigation, and the results of that investigation on Kootenai Street between Orchard Street and Vista Avenue. The purpose of this study was to conduct neighborhood outreach to consider various traffic calming measures along Kootenai Street and develop a conceptual plan of the appropriate treatments to be implemented. A vicinity map and study area is presented in Figure 1.

Proposed Traffic Calming Implementation Plan
Key features of the traffic calming concept plan include narrowing the vehicle travel lanes from 11 feet wide to 10 feet wide, providing sidewalks on the north side of the street to be continuous with existing sidewalk west of Roosevelt Street and proposed sidewalks east of Vista Avenue, and incorporating chicanes and bulb outs at key intersections. The proposed traffic calming implementation plan is presented in Figures 2(a) through 2(c) (in three separate pages for clarity) and shows proposed sidewalk as a gray area on the north side of Kootenai Street, bike lanes in green, and remaining parking areas in blue.

Opinion of Probable Cost
A conceptual opinion of probable cost for the proposed traffic calming concepts for Kootenai Street is presented in Table 1. The conceptual opinion of probable cost is based on several assumptions, concept level layouts and quantities, and 2018 dollars.

Next Steps
The proposed plan is conceptual only and will be updated through the design process. Continued coordination with the residents and stakeholders along Kootenai Street will be continued during the design process.

Specific considerations that ACHD should investigate and include in the design of the improvements include:

- Identify impacts to the existing storm water drainage faculties and system, including the necessary drainage improvements and adjustments.
- Conduct a potential “after” speed and volume study to compare to the “before” study and identify the benefits and success of the implemented traffic calming concepts.
Figure 1. Study Area Map

Legend
- Signal Control
- Stop Control with Flashing Light
- Marked Pedestrian Crossing
Figure 2(a). Kootenai Street Proposed Traffic Calming Implementation Plan - Kootenai Street - Orchard to Latah

Kootenai - Orchard to Kootenai Place

- Bike lanes continue over chicanes
- Parking on south side of street continues after chicanes
- Space for potential neighborhood entrance treatments

Kootenai - Kootenai Terrace to Roosevelt

- Bike lanes continue over chicanes
- Parking on south side of street continues after chicanes

Kootenai - Roosevelt to Latah

- Bike lanes continue over chicanes
- Parking on south side of street continues after chicanes
- Dedicated bike lanes
- Parking on south side of street
Figure 2(b). Kootenai Street Proposed Traffic Calming Implementation Plan - Kootenai Street - Latah to Vista

Kootenai - Latah to Owyhee

- Proposed sidewalk
- Parking on south side of street
- Proposed bulb-outs
- Rectangular Rapid Flashing Beacon (RRFB)

Kootenai - Owyhee to Shoshone

- Proposed sidewalk
- Parking on south side of street
- Proposed bulb-outs
- Rectangular Rapid Flashing Beacon (RRFB)

Kootenai - Shoshone to Vista

- Proposed sidewalk
- Parking on south side of street
- Proposed bulb-outs
- Rectangular Rapid Flashing Beacon (RRFB)
- Bike lanes continue over chicanes
- Parking on south side of street
- Space for potential neighborhood entrance treatments

Sections 4 of 6
Sections 5 of 6
Sections 6 of 6
Figure 2(c). Kootenai Street Proposed Traffic Calming Implementation Plan

TRAFFIC CALMING RECOMMENDED CONCEPT

- Maintains parking lane on south side of street
- Narrows street width
- Adds bike lanes

Improvements will be made within existing roadway footprint. Any property impacts during construction will be restored (sprinkler heads, landscaping, etc.)

Chicanes

- The bike lanes will go over the chicanes
- Removes on-street parking in area of chicanes
- Locates chicanes near signalized intersections
- Narrows street width

Improvements will be made within existing roadway footprint. Any property impacts during construction will be restored (sprinkler heads, landscaping, etc.)

Bike Lanes, South Side Parking

- The bike lanes will go over the chicanes
- Adds a sidewalk on the north side of the street
- Narrows street width

Improvements will be made within existing roadway footprint. Any property impacts during construction will be restored (sprinkler heads, landscaping, etc.)

Located near:
- Orchard & Kootenai
- Roosevelt & Kootenai
- Kootenai Place & Kootenai
- Abbey Cir. & Kootenai

Located near:
- Owyhee & Kootenai
- Shoshone & Kootenai

Located at:
- Roosevelt & Kootenai
- Latah & Kootenai
- Vista & Kootenai

Location:
- Bulb-outs
- Chicanes
Table 1. Kootenai Street Recommended Traffic Calming Opinion of Probable Costs

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Assumptions:

- All prices in 2018 dollars
- "Assume 4" of asphalt, 6” of 3/4" crushed aggregate for base, and 18" of uncrushed aggregate for base
- All stop bar and pedestrian crossing pavement markings at intersections will be replaced
- No intersection layouts or calculations have been completed.
- Two new signs will be installed on for each bulb out/chicane for parking & bike lanes
- Half of the signs will be 12”x18” and the other half will be 30” x 30"
- Traffic control is assumed to be 2.5% of the materials total
Appendix

Data Collection

Data Requested From Project Team Members
ACHD provided the following data:

- ACHD’s completed traffic investigation.
  - Study period traffic volumes, average daily traffic (ADT) and a.m. and p.m. peak hour volumes
  - Collected vehicular speeds and speed evaluations for the study period
- Current right-of-way information in GIS
- Current aerial images for area of study
- Existing storm drain facilities and outfalls within the study area

Data Collected by HDR

- Existing physical conditions:
  - Lane configurations and widths
  - Speed limits
  - Bus stops
  - Curb-to-curb width (measured to the face of curb)
  - On-street parking locations
  - Sidewalk locations and widths
  - Bicycle facilities and widths
  - Existing intersection configurations and control (stop control, signal control)
  - Crosswalk location and type

Existing Conditions

Existing Physical Conditions

POSTED SPEED LIMIT
The speed limit is posted at 25 mph throughout the study area.

ROADWAY WIDTHS
From S. Vista Avenue to S. Roosevelt Street, Kootenai Street is 46 feet wide from the top back of curb to the top back of curb. This width provides 42 feet of asphalt roadway from the lip of gutter to the lip of gutter.

From S. Roosevelt Street to S. Orchard Street, Kootenai Street is consistently 39 feet wide from the top back of curb to the top back of curb, providing 35 feet of asphalt roadway from the lip of gutter to the lip of gutter. Near S. Orchard Street, Kootenai Street widens to 46 feet from top back of curb to top back of curb to develop a westbound left turn lane at the S. Orchard Street intersection.
Right-of-way widths
The right-of-way width is 80 feet from S. Vista Avenue to S. Roosevelt Street. It decreases to 50 feet in width west of S. Roosevelt Street, and then increases to 70 feet approximately 300 feet from S. Orchard Street, staying that width until the intersection with S. Orchard Street.

SIDEWALK LOCATIONS AND WIDTHS
Attached sidewalks are present on both sides of Kootenai Street west of S. Vista Avenue, and are 5 feet in width; however, both sidewalks end before reaching S. Broxon St. There are other portions of attached sidewalk along Kootenai Street, between S. Broxon St. and S. Roosevelt Street, which can be found at various stop-controlled and signalized intersections, as well for stretches in front of a few homes, though there is no consistent sidewalk along this section of the street.

A continuous 5 foot sidewalk is found along the north side of Kootenai Street from S. Roosevelt Street to S. Orchard Street. There are also portions of attached sidewalk on the south side of Kootenai Street within this section, most notably near the intersection with S. Orchard Street.

BICYCLE FACILITY LOCATIONS AND WIDTHS
Kootenai Street has 3.5 foot wide bike lanes on both sides of the roadway from S. Vista Avenue to S. Roosevelt Street. From S. Roosevelt Street to S. Orchard Street, Kootenai Street has shared-lane markings or sharrows in each direction where bicyclists share the travel lane with vehicles.

TRANSIT FACILITIES AND SERVICE
No local transit routes currently operate along Kootenai Street. Valley Regional Transit (VRT) operates the Vista Route 3, Roosevelt Route 4, and Orchard Route 6 that intersect Kootenai Street and each provides access to Downtown Boise. Bus stops are located at the S. Vista Avenue, S. Roosevelt Street, and S. Orchard Street intersections with Kootenai Street.

Summary of ACHD Study
ACHD completed a traffic investigation of the street following requests from residents. Vehicle volume counts and a radar speed study were completed at one location east of S. Roosevelt Street in May of 2015 (results included below):

- ADT = 3,456
- Peak hour volume = 360 vehicles per hour (vph)
- Average volume per hour = 144 vph
- Average speed = 27 miles per hour (mph)
- Peak hour average speed = 27 mph
- 85th Percentile speed = 32 mph
- 95th Percentile speed = 35 mph

ACHD’s investigation found that there was substantial support for traffic calming from the residents along Kootenai Street based on the petition received. The volumes collected met the traffic calming criteria in place at the time they were collected. These results led to the current Kootenai Street Traffic Calming Concept Study.
Crash Analysis
Crash history data for the years 2011 to 2016 was collected for the study area. Overall there were 46 crashes along Kootenai Street. Twenty crashes were injury crashes and the other 26 were property damage only. The most common types of crashes along Kootenai Street are angle or angle turning at intersections (12), head-on crashes while turning (8), striking parked cars (7). The most common causes of these crashes include failure to yield (12), failure to obey a traffic signal (9), and impaired driving due to alcohol or drug use (7).

33 of the 46 crashes were intersection related with 14 at the S. Latah Street intersection, 10 at the S. Roosevelt Street intersection, and 5 at the S. Owyhee Street intersection. The rest of the intersections only registered one crash at most from 2011 to 2016. None of the crashes in which parked car was struck occurred at an intersection.

The most common crash type that occurred at the S. Latah Street and S. Owyhee Street intersections were angle and angle turning crashes. Head-on turning crashes were the most common at the S. Roosevelt Street intersection. Within the five year period the data was collected, one bicyclist was struck at both the S. Owyhee Street and S. Roosevelt Street intersections, as well as the Berkeley St. intersection. The crash history is summarized in Figure A-1.

Public Involvement Meeting #1
ACHD held a public involvement meeting (PIM) for this concept study on March 1, 2018. It was an open house with two separate presentations and group breakout sessions facilitated by ACHD and HDR staff to gather information on the values, goals, and vision of the residents and users of Kootenai Street for what good traffic calming would look like. It was designed as a listening and information gathering exercise and there was a great turnout.

Details of the feedback of attendees at the PIM and comments received are presented in Figure A-2.

Alternative Concept Development
Based on the stakeholder responses during PIM # the following alternative concepts were developed as potential traffic calming solutions along Kootenai Street.

Alternative Concepts Considered But Not Carried Forward
Alternatives considered but not carried forward after PIM # 1, along with the reasoning for not moving forward with them, are presented in Figure A-3.

Alternative Concepts Developed
Several traffic calming concepts were developed into alternatives after reviewing the technical data and the feedback from PIM # 1. These concepts are presented in Figure A-3, along with descriptions of how they would calm traffic.
From 2011 to 2016, there were 46 crashes recorded in the Kootenai St. study area, 33 occurring at intersections.

- Crash clusters can be seen around the signalized intersections at Roosevelt St. and Latah St.
- Most common types of crashes at intersections are angle, rear-end, and same direction turning.
- Crashes involving pedestrians and/or bicycles occurred at Roosevelt St. near Berkley St. and at Owyhee St.
- Most common causes of crashes were failure to yield to pedestrians, bicyclists, and other vehicles, failure to obey traffic signal, and alcohol impairment.
**Table: Primary Reasons for Using Kootenai**

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<th>Reason</th>
<th>Count</th>
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<tr>
<td>Commute to/from work</td>
<td>28</td>
</tr>
<tr>
<td>Taking kids to/from school</td>
<td>14</td>
</tr>
<tr>
<td>Recreation</td>
<td>44</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
</tr>
</tbody>
</table>

**Comments**

- "Part of traffic calming should be reducing the number of vehicles accessing Kootenai from Protest/Federal Way."
- "I don’t think a one stop approach (be it speed bumps or more signage) will be a fix-all. The approach definitely needs to be multi-faceted to serve the many users as well as deter the many non-essential users."
- "I can appreciate that the people living on Kootenai may feel we need traffic calming however, that is one of the main roads coming off of Federal Way now—they should have considered that before buying...."
- "Nothing should be ruled out including further lowering speed limits to 20 and even roundabouts—if likely to be effective"

**Is traffic calming necessary?**

- Yes: 85
- No: 19

**What type of transportation do you typically use on Kootenai Street?** (choose all that apply)

- Car: 100
- Bike: 59
- Walk: 70

**What solutions would be a good fit?**

- Speed dips
- Educate bicyclists to ride on the correct side of the road
- SIDEWALKS please!
- Additional police patrols
- Decrease road width and provide safe space for bikes and walking
- Speed bumps needed. Sidewalks where possible.
- Make it one way
- Lighting that fits the neighborhood
- Lower the speed limit more
- Flags at pedestrian crossing
- Decorated “highly visible” crosswalks
- Change the name to Kootenai Boulevard and emphasize “historical” with signage.

**What solutions would NOT be a good fit?**

- Speed bumps
- Gaudy signs/bright lights
- Sidewalks
- Roundabouts
- Bulb outs
- Center turn lanes
- More traffic lights
- Narrower lanes
- Leaving it as is
- Removing green areas
- Removing on-street parking
### Ideas Still Under Consideration

**Chicanes**
A chicane is a shallow S-shaped turn which requires the driver to turn slightly left and then right to stay on the road, which slows them down.

**Sidewalks**
Sidewalks provide pedestrians safety and mobility throughout the corridor.

**Median Islands**
Median islands separate opposing lanes of traffic.

**Rectangular Rapid Flashing Beacon (RRFB)**
RRFBs function as a warning beacon at pedestrian crossings.

**Bulb-outs**
Bulb-outs extend the sidewalk and curb, reducing crossing distance for pedestrians.

### Ideas Not Moved Forward

**Speed Bumps**
Not effective unless installed at regular intervals along the street at 300-foot spacing. This is not practical for Kootenai Street’s character or usage.

**Leaving As Is**
The existing street configuration does not calm traffic and will not meet the needs and intent of the neighborhood petition to address speed issues.

**Roundabout**
The traffic volumes on Kootenai Street do not require roundabout control. Roundabouts would require significant amounts of right-of-way and would impact adjacent properties and trees.

**More Traffic Signals**
The traffic volumes on Kootenai Street do not require traffic signal control. Additional traffic signals would disrupt the flow of traffic on Kootenai Street, and do not address traffic calming needs.
MEDIAN ISLANDS
Median islands are raised concrete islands located along the centerline that separate traffic and narrow travel lanes. The following were identified as optimal locations for center islands along Kootenai Street within the study area:

- The S. Vista Avenue intersection approach
- The S. Latah Street intersection approaches
- The S. Roosevelt Street intersection approaches
- The S. Orchard Street intersection approach

These are the signalized intersections and the median islands will provide a raised curb near the lane to help slow drivers. Proposed installation locations and conceptual layouts are presented in Figures A-4 and A-5. They are presented as alternatives to chicanes and were presented to the stakeholders and public for review and comment at PIM #2.

CHICANES
Chicanes are a series of alternating mid-block curb extensions that require vehicles to follow a curving, S-shaped path, which discourages drivers from speeding.

The ideal locations for median islands were also the same locations ideal for chicanes. The chicanes will provide a raised physical element as drivers approach signalized intersections and reduce the ability for them to speed up entering or leaving the intersections. Proposed installation locations and conceptual layouts are presented in Figures A-4 and A-5.

BULB OUTS
Bulb outs are an extension of the curb or the sidewalk into the street, usually at an intersection, that narrows the road, inhibits fast turns, and shortens the crossing distance for pedestrians. Some benefits of bulb outs include:

- They slow and calm traffic by narrowing the street width
- They provide space to install ADA compliant pedestrian ramps on existing sidewalks where they are otherwise too narrow
- They provide additional visibility and protection for pedestrians when crossing the street
- They reduce the exposure of pedestrians to vehicular traffic

The bulb outs will remove one parking spot on the south side of Kootenai Street where they are installed. This is to reduce pedestrian crossing distance and add additional visibility and protection to pedestrians crossing Kootenai Street.

The following locations were identified for bulb out installation:

- The southeast side of the Johnson Street intersection, on the eastbound approach
  - This bulb out is at an existing crosswalk in between the north and southbound Johnson Street approaches
  - A potential rectangular rapid flashing beacon (RRFB) may be included with this installation for enhanced pedestrian visibility
• The south side of Kootenai Street at the S. Owyhee Street intersection, on the east and westbound approaches
  o These bulb outs are at existing crosswalks that serve pedestrian traffic traveling along S. Owyhee Street
• The south side of Kootenai Street at the S. Shoshone Street intersection, on the east and westbound approaches
  o These bulb outs are at existing crosswalks that serve pedestrian traffic traveling along S. Shoshone Street

Proposed installation locations and conceptual layouts are presented in Figures A-4 and A-5.

NEIGHBORHOOD ENTRANCE TREATMENTS
Neighborhood entrance treatments could be combined with another treatment such as chicanes or median islands. Treatments could include neighborhood specific signs or monuments, which help to inform those entering the street that they are entering a neighborhood. ACHD does not develop neighborhood entrance treatments and the residents of the neighborhood will have to coordinate any such treatments with the City of Boise.

SIDEWALKS
Sidewalks can be implemented along Kootenai Street to narrow the overall roadway width by replacing one side of on-street parking with them. Also, the Monroe Elementary School Suggested Walking Routes map includes the entire length of Kootenai Street between Orchard Street and Vista Avenue as well as the cross streets of Roosevelt Street, Latah Street, Johnson Street, Owyhee Street, and Shoshone Street. Sidewalks will connect the existing sidewalk on these routes for consistent pedestrian facilities for school children and others to use. The cross section concepts developed incorporate various options for implementing sidewalks.

RADAR SPEED LIMIT SIGNS
A radar speed limit sign is an interactive sign, generally constructed of a series of LEDs that displays vehicle speed as motorists approach. The purpose of radar speed signs is to slow cars down by making drivers aware when they are driving at speeds above the posted limits. They are used as a traffic calming device in addition to or instead of physical devices such as speed humps, speed cushions, speed tables, and speed bumps. These signs were installed at each end of the study area to remind motorists of the speed limit and help them slow down to 25 mph. The approximate installation locations are presented in Figures A-4 and A-5.
Figure A-4. Kootenai Street Traffic Calming Concepts - Orchard Street to Roosevelt Street

1. Option #1: Median Islands
   - No on-street parking on both sides of street in areas with median islands.

2. Option #2: Chicanes
   - Chicanes with raised bike lanes.

Kootenai/Orchard

Kootenai/Roosevelt

Median Islands Example

Option #3: Chicanes with bike lanes following curb and gutter behind.

Option #2: Chicanes

Option #1: Median Islands

New Sidewalks

New Bike Lanes

Chicanes with bike lanes following curb and gutter behind.

Median Islands

Speed Limit Sign (already installed)
Figure A-5. Kootenai Street Traffic Calming Concepts - Roosevelt Street to Vista Avenue

- **Kootenai/Latah**
  - Option #1: Median Islands
  - New Sidewalk
  - No on-street parking in area with median islands

- **Kootenai/Johnson**
  - Pedestrian Crossing with RRFB Option #1
  - Potential RRFB
  - New Sidewalk

- **Kootenai/Owyhee**
  - Concept: Bulb Outs
  - Bulb-outs in parking lane

- **Kootenai/Shoshone**
  - Concept: Bulb Outs
  - Bulb-outs in parking lane

- **Option #2: Chicanes**
  - Pedestrian Crossing with RRFB and Bulb-out Option #2
  - No on-street parking in chicane area

- **Kootenai/Vista**
  - Option #1: Median Islands
  - New Sidewalk
  - No on-street parking in area with median islands

*Rectangular Rapid Flash Beacon (RRFB)*

Sample photo

*Note: The design of Kootenai Street Traffic Calming Concepts includes options such as median islands, pedestrian crossings, RRFB signs, and chicanes, with specific details about no on-street parking in certain areas.*
CROSS SECTION CONCEPT ALTERNATIVES

Three proposed cross section alternative concepts for Kootenai Street were developed to incorporate the various concepts and alternatives described above. The cross section options for Kootenai Street between S. Roosevelt Street and S. Orchard Street are presented in Figure A-6 and described below:

- **Option 1**: Remove on-street parking from both sides of the street. Use the existing 2 foot curb and gutter on both sides of the roadway, add new 5 foot wide bike lanes on both sides, 1.5 foot wide buffers between bike and vehicle travel lanes on both sides, one 11 foot wide vehicle travel lane in each direction, and the existing 5 foot existing sidewalk on the north side. This option would fit within the existing street footprint.

- **Option 2**: Remove on-street parking from the north side of the street. Add a new 5 foot wide sidewalk on the south side of the roadway (along with the existing 5 foot wide sidewalk on the north side), maintain the existing 2 foot curb and gutter on both sides, a 6 foot wide parking lane on the south side, 5 foot wide bike lanes on both sides, and one 11 foot wide vehicle travel lane in each direction. This option would add the new sidewalk on the south side outside of the existing street footprint outside of ACHD right-of-way.

- **Option 3**: Remove on-street parking from the north side of the street. Maintain the existing 2 foot curb and gutter on both sides, a 6 foot wide parking lane on the south side, 5 foot wide bike lanes on both sides, one 11 foot wide vehicle travel lane in each direction, and the 5 foot existing sidewalk on the north side of the roadway. This option would fit within the existing street footprint and within ACHD right-of-way.

The cross section options for Kootenai Street between S. Vista Avenue and S. Roosevelt Street are presented in Figure A-7 and described below:

- **Option 1**: Remove on-street parking from the north side of the street. Maintain the existing 2 foot curb and gutter on the south side and new curb and gutter on the north side, 6.5 foot wide parking lane on the south side, 5 foot wide bike lanes on both sides, one 11 foot wide vehicle travel lane in each direction, and a new 5 foot wide sidewalk on the north side of the roadway. This option would add a portion of the new sidewalk on the north side outside of the existing street footprint within ACHD right-of-way.

- **Option 2**: Remove on-street parking from the north side of the street. 5 foot wide sidewalks on both sides of the roadway, 2 foot curb and gutter on both sides, 6.5 foot parking lane on the south side, 5 foot bike lanes on both sides, and one 11 foot wide vehicle travel lane in each direction. This option would add a portion of the new sidewalk on the north side outside of the existing street footprint and the new sidewalk on the south side completely outside of the existing street footprint within ACHD right-of-way.
Figure A-6. Kootenai Street Cross Section Options - Orchard Street to Roosevelt Street

Existing: Kootenai Street - Roosevelt to Orchard - Facing West

- Converts parking lanes to bike lanes
- Adds a buffer between bike and vehicle lanes

Option 1: Buffered bike lanes

- Maintains parking lane on south side of street
- Adds bike lanes
- Adds a sidewalk on the south side of the street

Option 2: Bike lanes, south side sidewalk

- Maintains parking lane on south side of street
- Adds bike lanes

Option 3: Bike lanes
Figure A-7. Kootenai Street Cross Section Options - Roosevelt Street to Vista Avenue

Existing: Kootenai Street - Vista to Roosevelt - Facing West

- Maintains parking on south side of street
- Widens bike lanes
- Adds sidewalk to north side of street

Option 1: Wider bike lanes, north side sidewalk

- Maintains parking on south side of street
- Widens bike lanes
- Adds sidewalk to both sides of street

Option 2: Wider bike lanes, sidewalks on both sides
Public Involvement Meeting #2
ACHD held the second PIM for this concept study on July 11, 2018 to present concepts to the residents and users of Kootenai Street. A property owner meeting was held from 4:00 to 5:30 pm followed by an open house from 5:30 to 7:30 pm. Details of the feedback of attendees at the PIM and comments received are presented in Figure A-8.

Alternative Concept Refinement
Stakeholder responses during PIM #2 helped ACHD narrow down the traffic calming alternatives to a specific plan that refined and incorporated the preferred concepts for implementation along Kootenai Street.

Alternative Concepts Considered But Not Carried Forward
The concepts considered but not carried forward after PIM #2 were similar to those identified after PIM #1, along with the reasoning for not moving forward with them, are presented in Figure A-9.

Recommended Alternative Concepts
The recommended alternative concepts are presented in Figure A-9, along with descriptions of how they would calm traffic.
PROPERTY IMPACTS MATTER
We consistently heard concerns that proposed changes would require drastic impacts to homeowner properties. The tree canopy is important to the character of Kootenai Street and changes that will require cutting down trees would not be supported.

TRAFFIC CALMING ALTERNATIVES

<table>
<thead>
<tr>
<th>Location</th>
<th>Medians</th>
<th>Chicanes</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kootenai &amp; Orchard</td>
<td>36</td>
<td>50</td>
<td>129</td>
</tr>
<tr>
<td>Kootenai &amp; Roosevelt</td>
<td>32</td>
<td>56</td>
<td>103</td>
</tr>
<tr>
<td>Kootenai &amp; Latah</td>
<td>29</td>
<td>54</td>
<td>62</td>
</tr>
<tr>
<td>Kootenai &amp; Vista</td>
<td>36</td>
<td>44</td>
<td>103</td>
</tr>
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</table>

Summary: between the choices of none, medians, or chicanes, chicanes received the majority of votes.

BULB-OUTS AT Kootenai & Owyhee

<table>
<thead>
<tr>
<th>Location</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
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</thead>
<tbody>
<tr>
<td>Kootenai &amp; Orchard</td>
<td>29</td>
<td>73</td>
<td>122</td>
</tr>
<tr>
<td>Kootenai &amp; Roosevelt</td>
<td>30</td>
<td>71</td>
<td>15</td>
</tr>
</tbody>
</table>

Summary: most responses agreed with installing RRFB & bulb-outs.

Sidewalk and Bike Lane Options

<table>
<thead>
<tr>
<th>Location</th>
<th>Existing</th>
<th>Buffered bike lanes</th>
<th>Bike lanes, south side</th>
<th>Bike lanes</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kootenai, Roosevelt to Orchard</td>
<td>19</td>
<td>15</td>
<td>12</td>
<td>22</td>
<td>64</td>
</tr>
<tr>
<td>Kootenai, Vista to Roosevelt</td>
<td>34</td>
<td>16</td>
<td>24</td>
<td>50</td>
<td>None</td>
</tr>
</tbody>
</table>

Summary: most responses preferred installing bike lanes, and sidewalks on both sides.

Write-in requests to maintain 10-foot vehicle lanes

<table>
<thead>
<tr>
<th>Location</th>
<th>Write-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kootenai, Roosevelt to Orchard</td>
<td>64</td>
</tr>
<tr>
<td>Kootenai, Vista to Roosevelt</td>
<td>54</td>
</tr>
</tbody>
</table>

Summary: most responses preferred installing bike lanes, and sidewalks on both sides.

Online, Email, Mail in

<table>
<thead>
<tr>
<th>Comments Received</th>
<th>Online</th>
<th>Email</th>
<th>Mail in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>54</td>
<td>15</td>
<td>129</td>
</tr>
</tbody>
</table>

Summary: most responses agreed with installing bulb-outs.

Smart Display was used to show specific property impacts.
## Recommended Concepts

*These ideas are presented further on the subsequent boards*

**Narrow Vehicle Lanes**
- Narrow the vehicle lanes from 11-feet to 10-feet to accommodate changes within the existing roadway footprint.

**Chicanes**
- A chicane is a shallow S-shaped turn that requires drivers to turn slightly left and then right to stay on the road, which slows them down.

**Sidewalks**
- Sidewalks installed in the current parking lanes on the north side will narrow the roadway and provide pedestrians safety and mobility throughout the corridor.

**Rectangular Rapid Flashing Beacon (RRFB)**
- RRFBs function as a warning beacon at pedestrian crossings.

**Bulb-outs**
- Bulb-outs extend the sidewalk and curb, reducing crossing distance for pedestrians.

## Ideas Not Moved Forward

**Speed Bumps**
- Not effective unless installed at regular intervals along the street at 300-foot spacing. This is not practical for Kootenai Street’s character or usage.

**Leaving As Is**
- The existing street configuration does not calm traffic and will not meet the needs and intent of the neighborhood petition to address speed issues.

**Roundabout**
- The traffic volumes on Kootenai Street do not require roundabout control. Roundabouts would require significant amounts of right-of-way and would impact adjacent properties and trees.

**Median Islands**
- Median islands separate opposing lanes of traffic. This was removed from consideration based on preferences expressed at Public Open House #2.

**More Traffic Signals**
- The traffic volumes on Kootenai Street do not require traffic signal control. Additional traffic signals would disrupt the flow of traffic on Kootenai Street, and do not address traffic calming needs.
Recommended Traffic Calming Concept Plan

Key features of the traffic calming concept plan included narrowing the vehicle travel lanes from 11 feet wide to 10 feet wide, providing sidewalks on the north side of the street to be continuous with existing sidewalk west of Roosevelt Street and proposed sidewalks east of Vista Avenue, and incorporating chicanes and bulb outs at key intersections as presented in PIM # 2.

ACHD conducted an analysis of the on-street parking on Kootenai Street from Orchard Street to Vista Avenue over a period of three weeks. The data revealed that at most, 10% of the on-street parking was utilized during weekdays and weekends. On-street parking was used most in the Roosevelt Street to Orchard Street section of Kootenai. Results of the analysis are presented in Figure A-10.

The recommended traffic calming concept plan was prepared for presentation at PIM # 3 and is shown in Figures 2(a) through 2(c). The recommended plan includes the items described above and showed perspective views of the proposed cross sections along each segment of Kootenai Street, including how chicanes may be incorporated into the streets and how bulb outs would be implemented. The purpose of these perspective section views is to show how the proposed improvements can be implemented within the existing roadway footprint.

Another crucial component of the proposed improvements was the commitment to maintain the landscaping and other features adjacent to the existing curb and gutter along Kootenai Street.
Small temporary impacts are expected during construction but any impacted features, including but not limited to sprinklers, landscaping, fences, will be restored to match their condition before construction.

Public Involvement Meeting #3
ACHD held PIM # 3 for this concept study on October 2, 2018. A property owner meeting was held from 4:00 to 5:30 pm followed by an open house from 5:30 to 7:00 pm. ACHD’s plan maintains the characteristics and nature of the neighborhood while addressing the traffic calming needs that were identified in the neighborhood driven petition. Details of the feedback of attendees at the PIM and comments received are presented in Figure A-11.

Proposed Traffic Calming Implementation Plan
Two concepts were added to the recommend plan based on the PIM #3 feedback. The first added notes about the opportunity for potential neighborhood treatments at each end of the Kootenai Street study area to inform those entering the street that they are entering a neighborhood, not merely a road that serves as a travel route to get to a destination. The second was to add more chicanes on the segments from orchard Street to Roosevelt Street. Many attendees and online commenters noted the lack of and need for traffic calming features between these streets compared to the other segments of Kootenai Street. The proposed traffic calming implementation plan is presented in Figures 2(a) through 2(c).
The recommended concept for Kootenai St. is a comprehensive plan that addresses the need for traffic calming while also carefully considering the concerns of the neighborhood. ACHD listened to the neighborhood and developed a concept that strikes a compromise between maintaining the character of Kootenai St. and acting to reduce traffic volume and speed. It also promotes a more pedestrian and bicycle friendly street with the addition of sidewalks along the entire north side of Kootenai St. and wider bike lanes from Orchard to Vista.

- Comment Excerpt from a Kootenai Resident

Representative comments disagreeing with the recommended concepts:

- I believe that Kootenai St. is in fine shape as it stands & this process & the resulting changes are a huge waste of money.
- No sidewalks - has nothing to do with traffic calming.
- Police enforcement of speed limit would be effective. Speed bumps more effective. Emergency vehicles should not be using Kootenai as a through street anyway.
- Quit messing with the street. Park a cop there for a few minutes a day. Several times a week.
- Don't want to lose street parking and sidewalks would cut into property owners landscaping.

Representative comments agreeing with the recommended concepts:

- Appreciate the flashing pedestrian crosswalk light at Johnson—immensely important for kids crossing for school.
- I strongly endorse the narrowed vehicle lanes...People > cars, so keep the good ideas coming!
- Good alternative to narrow the streets. I think you have listened to the concerns of the neighborhood.
- Residents want to be able to walk through their neighborhoods, and mechanisms to slow traffic and provide a walking path will help.
- My kids will now be able to safely ride their bikes or walk all the way to Monroe via Kootenai to Johnson Street. I hope this project gets going soon!
- As a property owner who frequently walks, bikes, drives and runs on Kootenai, I think ACHD worked hard and really listened to the concerns of owners/neighbors. You have come up with a concept that maintains the charm and integrity of this historic street, yet makes our street the bike/walker friendly option for this area of town and encourages people to get our and be a part of their neighborhood.
- I cannot be more pleased and happy regarding this proposed plan. PLEASE, PLEASE, PLEASE make this happen!!!
- Parking does concern me but it’s a trade off—appreciate the thought put into this plan.
- The 10 foot lanes allow all the necessary traffic calming measures to be implemented without putting sidewalks into anyone’s yard.
- I’m so happy there will be sidewalks, parking and bike lanes. All modes of transportation will have a safe option.