Bicycle & Pedestrian Advisory Committee Meeting

Thursday, December 17, 2020, 5:00 – 7:00 P.M.

To join the Zoom Meeting via computer, go to: www.fastplanning.us/keepup/zoom
Zoom Meeting Phone Number: 1 (253) 215-8782, enter Meeting ID 814-9107-4254

1. Call to Order
2. Introduction of Members and Attendees
3. Approval of the December 17, 2020 Agenda
4. Approval of the November 19, 2020 Minutes Pg 2-5
5. Staff Report/Working Group Reports/Chair Report Pg 6
6. Public Comment Period
7. Old Business
   a. Changes to Alaska Administrative Code (AAC) Pg 7-33
      - 13 AAC 02.050 Driving on Right Side of Roadway – Exemptions & Special Situations
      - 13 AAC 02.400 Riding Bicycles on Roadways & Bicycle Paths
      - 13 AAC 02.455 Operation of Off-Highway Vehicles on Highways & Other Locations
   b. Winter Maintenance of Non-Motorized Paths Pg 34-59
8. New Business
   a. New NCHRP "Guidance to Improve Pedestrian & Bicycle Safety at Intersections" Pg 60-75
9. Other Issues
10. Committee Member Comments
11. Adjournment

Next Scheduled BPAC Meeting – Thursday, January 28, 2021, 5-7 P.M.

Bicycle & Pedestrian Advisory Committee Web Conference
Meeting Minutes
November 19, 2020 • 5:00-7:00 p.m.
By computer at *www.fastplanning.us/keepup/zoom*
By telephone at: 1 (253) 215-8782 Meeting ID: 814 6029 4267

1. **Call to Order**
   Olivia Lunsford, Vice Chair, filling in for David van den Berg, Chair, called the meeting to order at 5:04 p.m.
2. **Introduction of Members and Attendees**
   *David van den Berg, Chair (absent)
   *Nathan Belz
   *Donna Gardino
   *Carl Heim
   *Jim Richardson
   *Peter Stern
   *John Stowman
   *Larry Zervos
   **Jackson Fox
   **Olivia Lunsford
   **Deborah Todd (absent)
   Corey DiRutigliano
   Ben Dover
   Don Galligan
   Lee Hart
   Gary Jenkins
   Russ Johnson
   Stan Justice
   Travis Naibert
   Bob Pristash
   Erika Van Flein
   BPAC Representative
   ****FAST Planning Staff***
3. **Approval of the November 19, 2020 Agenda**
   Motion: To approve the November 19, 2020 Agenda. (Zervos/Gardino).
   Discussion: No further discussion.
   Vote on Motion: None opposed. Approved.

4. **Approval of the October 29, 2020 Meeting Minutes**
   Motion: To approve the October 29, 2020 Meeting Minutes as written. (Zervos/Belz).
   Discussion: No further discussion.
   Vote on Motion: None opposed. Approved.

5. **Staff /Working Group/Chair Reports**
   Mr. Fox provided the following updates:
   - **5th Avenue Reconstruction Project**: Following the motion made on October 29, 2020 by the Bicycle & Pedestrian Advisory Committee (BPAC) recommending to the Technical Committee to extend the public process and require an interactive online open house to for the 5th Avenue Reconstruction Project to examine and reconsider both one-way and two-way typical sections for the project, Mr. Fox took the motion to the Technical Committee on November 4th for review, with a presentation summarizing the four Stakeholder Group meetings held between January and March of 2020 and the design concepts that came out of those meetings. Following Mr. Fox's presentation of the Stakeholder Group process, another presentation was provided by Bob Pristash of the City of Fairbanks to walk the Technical Committee through their decision-making process in selecting a one-way alternative to move forward with the project. Since that time a web page for 5th Avenue was set up on the FAST Planning website containing the recordings of the presentation by Mr. Pristash, as well as copies of presentations made by Mr. Fox and Mr. Pristash along with materials from the four Stakeholder Group meetings. The project was discussed at length at the November 4, 2020 Technical Committee Meeting. The outcome of that meeting was a motion made and passed by the Technical Committee to continue public outreach for the typical sections during final design of 5th Avenue project based on available funding. Mr. Fox presented the decisions made by both the BPAC and Technical Committee to the Policy Board at their November 18, 2020 meeting. Mr. Fox received a communication from Bob Pristash and Ivet Hall, to forward on to the 5th Avenue Stakeholder Group, that they made the decision to proceed with the one-way street design but planned to reach out to the Stakeholders once they further developed those typical sections to gain input before the preferred typical section was created.
   - **Status Update for Sidewalk on Merhar Loop Road in the Bentley Trust Area**: Mr. Fox provided an update on the sidewalk that has not been installed near Cold Spot Feeds and Sports Authority from the roundabout on Helmericks along the loop around to near Pier 1 Imports. Mr. Fox asked Mr. Pristash to provide a response and received an email stating that the 2015 Developer Agreement had a five-year time limit with provisions for a one-year extension to get the sidewalk installed. The Agreement was signed in August 2015, so technically that Agreement had expired but the City had the option to extend that for a year or more. Mr. Pristash was suggesting modification to the timeline for the installation of that sidewalk which was the responsibility of the Developer.

   Working Group Reports
   No Working Group Reports.

Chair Report
No Chair Report.

6. **Public Comment Period**
Ben Dover inquired if the new sidewalks that got built in the Merhar area would affect their taxes to maintain the new stuff they were building.

Mr. Fox stated that he did not believe that it would as the landowner currently paid the property taxes on the property and if lots were sold or leased or improvement were made, it would actually increase the tax base and provide more funding to the City that would cover the maintenance expense of this road.

Stan Justice commented that last spring he had talked to the BPAC and complained about the loader that had made the Skarland Trail impassable along Ballaine Road and it did some good because this year the loader came through and did not destroy the trail. Mr. Justice thanked the BPAC for their work.

7. **Old Business**
   a. **Lacey Street Reconstruction Stakeholder Meetings Update**
   Mr. Fox recapped the last Stakeholder Group Meeting that was held for the Lacey Street Project and presented the final design concepts that came out of that meeting. Mr. Fox stated that the graphics were also posted to the FAST Planning website on the Lacey Street Reconstruction Project web page. Mr. Fox will provide a presentation of the final design concepts next to the Technical Committee and Policy Board at their December meetings.

   b. **Discussion of Changes to Alaska Administrative Code (AAC) and/or Local Laws**
   - 13 AAC 02 400 – Riding Bicycles on Roadways and Bicycle Paths
   - 13 AAC 02 050 – Driving on Right Side of Roadway, Exceptions & Special Situations
   - 13 AAC 02 455 – Operation of Off-Highway Vehicles on Highways & Other Locations

   Mr. Fox explained that a variety of related documents were included in the meeting packet along with some new proposed changes for the Alaska Administrative Code to address deficiencies and improve safety for bicyclists. Further discussion was postponed to the December 17, 2020 meeting.

8. **New Business**
   a. **Old Steese Highway Reconstruction – Guest Presentation by DOT&PF**
   Mr. Fox introduced Gary Jenkins of DOWL who provided a brief presentation about the Old Steese Highway Reconstruction Project.

   b. **Winter Maintenance of Non-Motorized Paths**
   Ms. Lunsford introduced Jim Richardson of the BPAC to provide information about the problems with winter maintenance on non-motorized paths. Further discussion was postponed to the December 17, 2020 meeting

   c. **New NCHRP "Guidance to Improve Pedestrian & Bicycle Safety at Intersections"**
   Postponed to the December 17, 2020 meeting.

9. Other Issues

No other issues.

Committee Member Comments

- Larry Zervos thanked Mr. Belz for providing the site link to view the movie, “Why We Cycle” and a discussion by the Vermont City Coalition and commented that he also attended the session they gave afterward and had really enjoyed it and thought it was well worth it.

10. Adjournment

Motion to adjourn. (Zervos/Stern). The meeting adjourned at 6:58 p.m. The next BPAC meeting is Thursday, December 17, 2020, 5-7 pm.

Approved: _____ Date: _____

David van den Berg, Chair
Bicycle & Pedestrian Advisory Committee

zoom
etiquette & what to expect

The chat feature IS for...

- the host to share the sign-in sheet & other web links
- you to share links relevant to the presented material(s)
- noting connection issues (i.e., "I can't hear anything.")
- committee members to let us know they have to exit the meeting
- transcribing motions made during the meeting

The chat feature IS NOT for...

- public comment

  NOTE: If you have a comment & are unable to speak (i.e., no microphone), please send your comment in a direct message to the Host of the meeting.

  The host will read your comment aloud to the committee for the record.

- the discussion of agenda items

  This should only take place by voice so that everyone can hear it.

If you would like to speak, please raise your hand with the feature.

If you have called in, unmute your microphone by pressing *6.
Your number will go to the top of the participant list window.
Please remain quiet until you're called on to speak.

Please mute your microphone at all times unless you are speaking.

Our meetings are set up to have you muted upon entry to preserve a space free of distraction.
If you forget to mute yourself, the host will it mute when you're not speaking.

TIPS FOR THE MEETING MODERATOR

To do roll call, keep a checklist of your committee members handy & update it as they enter the meeting.

When you call the meeting to order:

- call the names of those present in the participant window (refer to your checklist)
- note the committee member absences
- *also call the names of non-committee members in the meeting*

It is good practice to specify when you're looking for comments from your committee vs. the public.
In these virtual meeting spaces, it can be hard to know when it is your opportunity to speak.

Special Rules for Bicycles, Nonmotorized Conveyances, Motorcycles, and Motor-Driven Cycles

13 AAC 02.400. Riding bicycles on roadways and bicycle paths

(a) Unless otherwise posted by traffic control devices and signs, or bicycle lane, or shared lane use markings, a~~A~~ person operating a bicycle upon a roadway shall give way a motor vehicle and ride as near to the right side of the roadway as practicable~~, and shall give way to the right as far as practicable to a motor vehicle proceeding in the same direction~~ when the driver of the motor vehicle gives audible signal~~.~~, except:

(1) when passing another bicycle or vehicle traveling in the same direction;

(2) when making a left turn at an intersection or driveway;

(3) when roadway or other conditions makes riding to the right dangerous or impractical; and

(4) when the travel lane is too narrow to allow the passing vehicle and the bicyclist room to travel side by side.

(b) Persons riding bicycles on a roadway may not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles except where lane and shoulder widths allow adequate room for vehicles to pass without leaving the intended lane of travel. Persons riding bicycles two abreast may not impede traffic and~~, in a laned roadway,~~ shall ride within the farthest right lane or right edge of the road.

(c) When a shoulder of the highway is maintained in good condition, an operator of a bicycle shall use the shoulder of the roadway.

(d) A person operating a bicycle on a trail, path, sidewalk, or sidewalk area shall

(1) exercise care to avoid colliding with other persons or vehicles;

(2) give an audible signal before overtaking and passing a pedestrian; and

(3) yield the right-of-way to any pedestrian.

(e) Repealed 6/28/79.

(f) A person riding a bicycle intending to turn left shall, unless ~~he~~ the operator dismounts and crosses as a pedestrian, comply with the provisions of sec. 200 of this chapter. The operator of a bicycle must give a signal by hand and arm continuously during the last 100 feet traveled unless the hand is needed in the control or operation of the bicycle. When stopped to await an opportunity to turn, a hand and arm signal must be given continuously by the operator.

(g) No person may ride a bicycle upon a sidewalk in a business district or where prohibited by an official traffic-control device.

(h) No bicycle race may be conducted upon a roadway, except as provided under AS 05.35.

Commented [NB1]: I think this is fine but we need some discussion about not signing sidewalks as bike routes.

Use of Roadway

13 AAC 02.050. Driving on right side of roadway - exceptions and special situations

(a) Upon a roadway of sufficient width, a vehicle must be driven upon the right half of the roadway, except as follows:

(1) when overtaking and passing another vehicle proceeding in the same direction, or when preparing for a left turn at an intersection or into an alley, private road or driveway;

(2) when traveling upon a roadway marked or divided as provided by 13 AAC 02.025, 13 AAC 02.085, or 13 AAC 02.095, or within an urban district upon a roadway restricted to one-way traffic; or

(3) when an obstruction exists making it necessary to drive to the left of the center of the highway; a driver must yield the right-of-way to all vehicles traveling in the opposite direction upon the unobstructed portion of the highway.

(4) repealed 6/28/79;

(5) repealed 6/28/79.

(b) Upon all roadways outside an urban district, a vehicle other than an emergency vehicle proceeding at less than the maximum authorized speed of traffic must be driven in the right-hand lane or as close as practicable to the right-hand curb or edge of the roadway, except when overtaking and passing another vehicle proceeding in the same direction or when preparing for a left turn at an intersection or into an alley, private road, or driveway. However, on a two-lane highway outside an urban district where passing is unsafe because of oncoming traffic or other conditions, the driver of a motor vehicle proceeding at less than the maximum authorized speed of traffic and behind whom five or more vehicles are formed in a line shall turn off the roadway at the nearest place designated as a turnout or wherever sufficient area for a safe turnout exists in order to permit following vehicles to pass.

(c) When overtaking or passing a person operating a bicycle proceeding in the same direction of travel, the driver of a motor vehicle shall exercise due care and:

(1) if there is more than one lane for traffic proceeding in the same direction, move the vehicle to the travel lane to the immediate left~~, if the lane is~~ if available and moving into the lane is reasonably safe; or

(2) if there is only one lane for traffic proceeding in the same direction, pass to the left of the person operating a bicycle at a safe distance, which must be not less than three feet between any portion of the vehicle and the bicycle, and shall not move again to the right

side of the highway until the vehicle is safely clear of the overtaken person operating a bicycle.

Commented [NB2]: I propose instead "return to the center of the travel lane"

The driver of a motor vehicle may drive to the left of the center of a roadway, including when a no passing zone is marked, to pass a person operating a bicycle only if the roadway to the left of the center is unobstructed for a sufficient distance to permit the driver to pass the person operating the bicycle safely and avoid interference with oncoming traffic. This paragraph does not authorize driving on the left side of the center of the roadway when prohibited under 13 AAC 02.060, 13 AAC 02.065, or 13 AAC 02.075.

~~The collision of a motor vehicle with a person operating a bicycle is prima facie evidence of a violation of this section.~~

13 AAC 02.060. Limitations on driving left of center

(a) A vehicle may not be driven on the left side of a roadway under the following conditions:

(1) when approaching within 500 feet of the crest of a grade or a curve in a highway where the driver's view is obstructed for a distance which creates a hazard if another vehicle is approaching from the opposite direction;

(2) when approaching within 100 feet of or traversing an intersection or railroad grade crossing unless otherwise indicated by an official traffic control device; or

(3) when the view is obstructed upon approaching within 300 feet of a bridge, viaduct, or tunnel; (4) repealed 6/28/79.

(b) The provisions in (a) of this section do not apply to a vehicle on a one-way roadway, or under the conditions described in 13 AAC 02.050(a)(3), or to the driver of a vehicle turning left from an alley, private road, or driveway.

13 AAC 02.065. Overtaking a vehicle on the left - limitations

(a) Except as provided in sec. 55 of this chapter, the driver of a vehicle overtaking another vehicle proceeding in the same direction shall pass to the left of the overtaken vehicle at a safe distance, and may not return to its right lane until safely clear of the overtaken vehicle. Upon audible signal, the driver of the overtaken vehicle shall give way to the right in favor of the overtaking vehicle. If the driver of the overtaking vehicle must perform the passing maneuver in a lane reserved for oncoming traffic, the driver of the overtaken vehicle may not increase the speed of his vehicle until the overtaking vehicle has passed and driven back to the right side of the roadway.

(b) No vehicle may be driven to the left side of the center of a roadway in overtaking and passing another vehicle proceeding in the same direction unless authorized by this chapter and unless

the left side of the roadway is clearly visible and free of oncoming traffic for a sufficient distance ahead to permit the overtaking and passing to be completed without interfering with the flow of traffic approaching from the opposite direction or with a vehicle overtaken. The overtaking vehicle shall return to an authorized lane of travel as soon as practicable and, if the passing movement involves the use of a lane authorized for vehicles approaching from the opposite direction, before coming within 200 feet of an approaching vehicle.

13 AAC 02.075. No-passing zones

(a) Repealed 6/28/79.

(b) Where an official traffic-control device is in place to define a no-passing zone, no driver may drive on the left side of the roadway within the no-passing zone or on the left side of the solid yellow striping designed to mark the no-passing zone.

(c) This section does not apply to a roadway restricted to one-way traffic or to a driver of a vehicle turning left into or from an alley, private road or driveway, unless an official traffic-control device specifically prohibits the turn.

Special Rules for Snowmobiles and Other Off-Highway Vehicles

13 AAC 02.455. Operation on highways and other locations

(a) A snowmobile or an off-highway vehicle may be driven on a roadway or shoulder of a highway only under the following circumstances:

(1) when crossing a highway as provided in (f) of this section, or when traversing a bridge or culvert on a highway, but then only by driving at the extreme right-hand edge of the bridge or culvert and only when the traverse can be completed with safety and without interfering with other traffic on the highway;

(2) when use of the highway by other motor vehicles is impossible because of snow or ice accumulation or other natural conditions or when the highway is posted or otherwise designated as being open to travel by off-highway vehicles;

(3) when highway driving is authorized by an authority having jurisdiction over the highway, but only in accordance with restrictions which may be imposed by that authority with regard to highway use; or

(4) when driven on the right-of-way of a highway which is not a controlled-access highway, outside the roadway or shoulder, and no closer than three feet from the nearest edge of the roadway; night driving may be only on the right-hand side of the highway and in the same direction as the highway motor vehicle traffic in the nearest lane of the roadway; no person may drive an off-highway vehicle within the area dividing the roadways of a divided highway, except to cross the highway as provided in (f) of this section.

(b) Repealed 6/28/79.

(c) Repealed 6/28/79.

(d) Repealed 6/28/79.

(e) Repealed 6/28/79.

(f) A snowmobile or an off-highway vehicle may make a direct crossing of a highway if

(1) the crossing is made approximately at a right angle to the highway and at a location where visibility along the highway in both directions is clear for a sufficient distance to assure safety, and the crossing can be completed safely and without interfering with other traffic on the highway; and

(2) the vehicle is brought to a complete stop before crossing the shoulder or roadway, and the driver yields the right-of-way to all traffic on the highway.

(g) No snowmobile or other off-highway vehicle may cross or travel on a sidewalk, a location intended for pedestrian or other nonmotorized traffic, an alley, or a vehicular way or area which is not open to snowmobile or off-highway vehicle operation, except as provided in (f) of this section.

Options for Replacement of Section (g) Above

Option 1 (*from Larry*)

(g) A snowmobile or an off-highway vehicle may not be driven on a sidewalk, a location intended for pedestrian use, a bicycle lane, path or trail, an alley, a vehicular way or area that is not open to snowmobile or off-highway vehicle operation.

Option 2 (*from Jackson*)

(g) No snowmobile or other off-highway vehicle may:

(1) cross or travel on a sidewalk, a location intended for pedestrian or other nonmotorized traffic, a median, an alley, or a vehicular way or area which is not open to snowmobile or off-highway vehicle operation, and no closer than three feet from the nearest edge of a sidewalk or other location intended for pedestrian or other nonmotorized traffic, except as provided in (f) of this section; or

(2) be operated in a careless, reckless, or negligent manner so as to endanger or cause injury or damage to persons or property, or otherwise conflict with the nonmotorized use of a sidewalk or other location intended for pedestrian or other nonmotorized traffic.

From Nathan:

WHEREAS the Department of Transportation and Public Facilities requires driveway and approach road applications and the entity responsible for ensuring safe stopping sight distance is maintained;

WHEREAS limited access facilities preclude the use of modes other than automobiles such as biking and walking and for the purpose of access control.

WHEREAS the phrase “impossible because of snow or ice accumulation or other natural conditions” is objective

WHEREAS the operation of such vehicles on private property (to include driveways), regardless of ROW, damages driveways and slopes of approach roads.

In my opinion, a2 is outdated, abused, and should be removed.

With respect to a4, I believe this should be removed whereas we require driveway and access permits, OHVs (ATVs and snowmachines) should not be able to cross anywhere they please, particularly on controlled- and limited-access highways.

Propose the addition of:

No snowmobile or other off-highway vehicle may (1) cross or travel on a sidewalk, a location intended for pedestrian or other nonmotorized traffic, a median, an alley, or a vehicular way or area which is not open to snowmobile or off-highway vehicle operation, and no closer than three feet from the nearest edge of a sidewalk or other location intended for pedestrian or other nonmotorized traffic, except as provided in (f) of this section; or (2) be operated in a careless, reckless, or negligent manner so as to endanger or cause injury or damage to persons or property, or otherwise conflict with the nonmotorized use of a sidewalk or other location intended for pedestrian or other nonmotorized traffic.

Propose adding a section that explicitly states where OHVs may not be ridden and may not make crossings to make the code read more clearly. For example:

An OHV may not operate on or cross, except at approved and marked locations, a

(a) limited access or controlled-use highway [should probably define or provide examples, e.g., Mitchell Expy, Johansen Expy, etc.)
(b) a sidewalk, path, or other facility intended for non-motorized travel, and no closer than…
(c) Private driveways and access roads unless the operator has explicit consent to do so

State	Policy	Allowed to cross state roads?	Allowed on state roads?	Allowed on city roads?	User Requirements	Vehicle Requirements	Speed Limit	Time Restrictions	Other Notes
Alaska	Yes	Yes	No*	No*	AS 28.39 and 13 AAC 02.430 through 13 AAC 02.455	13 AAC 04.400 through 13 AAC 04.420	N/A	N/A	All laws pertaining to snowmachines and ATVs at the state level are included in the Alaska State Legislature (2017 - 2018)

Borough	Policy	Allowed to cross state roads?	Allowed on state roads?	Allowed on city roads?	User Requirements	Vehicle Requirements	Speed Limit	Time Restrictions	Other Notes
Aleutians East Borough	No	Default to State Provisions							
Anchorage	Yes	Yes	No*	No*	Must wear helmet meeting Snell Foundation requirements with proof attached, must have license or licensed individual riding on same machine	Red light only 500'	N/A	Shall not operate from 10 PM to 7 AM	Operations on private property requires express consent of owner on paper. Can't operate within 500' of ice rink, skiing establishment, etc. Can't operate on lands not owned if destruction of soil or undergrowth is likely.
Bristol Bay Borough	No	Default to State Provisions							
Denali Borough	No	Default to State Provisions							
Fairbanks North Star Borough	No	Default to State Provisions							
Haines Borough	Yes	Yes	No*	No*	16 years or older. Valid driver's license. Proof of insurance. Hand signals when turning.	Default to State Provisions	<25 mph on borough streets	Shall not operate from 9 PM to 9 AM at Tlingit Park or Seward parade grounds	
Juneau	Yes	No	No	No	N/A				
Kenai Peninsula Borough	No	Default to State Provisions							
Ketchikan Gateway Borough	No	Default to State Provisions							
Kodiak Island Borough	No	Default to State Provisions							All road surfaces are gravel
Lake and Peninsula Borough	No	Default to State Provisions							
Matanuska-Susitna Borough	No	Default to State Provisions							
North Slope Borough	No	Default to State Provisions							
Northwest Arctic Borough	No	Default to State Provisions							
Petersburg Borough	No	Default to State Provisions							Local provisions submitted for approval in October 2016
Sitka	No	Default to State Provisions							
Skagway	Yes	Yes	No*	Yes	**ATV**: if under 16 years old requires parent/guardin, if under 18 requires helmet, see city ordinances for designated and restricted steets of use. | **Snowmachines**: requires driver license, travel in single file on streets and alleys, may only tow passengers via a sled and skid, cannot operate on schoolgrounds or municipal streets designated by borough assembly	**ATV**: requires noise suppression muffler, liability insurance, trailers during daylight hours only	**ATV**: <15 mph, except on Yakutania Point and Pat Moore Bridges <5 mph | **Snowmachine:** <20 mph in muncipality		Must travel single file along street or alley
Wrangell	Yes**	Yes	No*	Yes	Default to State Provisions	**Snowmobile**: Borough registration valid for 3 years. Forward light that reveals at least to 100'.	Default to State Provisions		ROW permitted for use changes based on decision of council, consult website and local authorities for currently approved areas
Yakutat	Yes	Yes	No*	Yes	Requires valid driver's license, approved safety helmets worn by operators and passengers, must be 16 or older, if under 16 valid license required.	Lights must be on at all times of operation,mufflers and tail pipes shall be sealed and operational	<15 mph	can't 10 PM to 6 AM	

*** Special provision exists**

**** Policy on snowmachines only; ATVs categorized as snowmachines because of low-pressure tires**

Special provision for if no other ways present (13 AAC 02.455)

Special provision for if no other ways present or local authority states otherwise (13 AAC 02.455)

State	Policy	Cross state roads?	Drive on state roads?	Drive on city roads?	User Requirements	Vehicle Requirements	Speed Limit	Time Restrictions	Other Notes
Alaska	Yes	Yes	No*	No*	AS 28.39 and 13 AAC 02.430 through 13 AAC 02.455	13 AAC 04.400 through 13 AAC 04.420	N/A	N/A	http://www.legis.state.ak.us/basis/Search.asp?page=0&s

City	Census Area	Policy	Allowed to cross state roads?	Allowed on state roads?	Allowed on city roads?	User Requirements	Vehicle Requirements	Speed Limit	Time Restrictions	Other Notes
Unalaska	Aleutians West	No	Default to State Provisions							
Bethel	Bethel Census Area	Yes	Yes	No*	Yes	**ALL:** If under 18 requires a driver's license or be within 100' of 21 year old who is supervising and has a valid driver's license, minors must wear helmets and travel shortest reasonable distance along city roads | **ATV**: liability insurance, proof of insurance, valid driver's license, may not pass other moving vehicles or weave in traffic | **Snowmachine**: proof of registration displayed, liability insurance, proof of insurance, may not pass other moving vehicles or weave	**ATV**: must be under 1500 pounds	**Low-speed vehicle**: <25 mph | **ATV**: <15 mph city road, <5 mph parking lot or congested with pedestrians | **Snowmachines**: <15 mph on city road, <5 mph parking lot or congested with pedestrians	N/A	Definitions: ATV = 3 ormore low-pressure tires, Low-speed vehicle = motor vehicle with 4 wheels that reaches minimum speed of 20 mph, Snow machine = motorized vehicle under 1300 lbs propelled by a track system over snow/ice
Dillingham	Dillingham	Yes	Yes	No*	Yes	**OHV/ATV**: 14 or older and possess a valid driver's license, 18 or younger requires helmet, cannot be operated within business district (see extra), allowed on ROW of all roads as long as 3' or more from edge of shoulder, operation after dark requires same direction of roadway motor traffic | **Snowmobiles:** Show proficiency of knowledge of rules of the road, under 18 must wear helmet, after dark operation remanded to right side of a designated snowmobile route and in same direction as roadway traffic, cannot be operated within business district (see extra) and Main Street from Denny Way to intersection of Second Avenue West	**OHV/ATV**: Cannot be modified to make more noise than when manufactured | **Snowmboile**: headlight illuminated at all times, visibly display valid state snowmobile registration	<20 mph	**OTV/ATV**: prohibited to operate between 12 AM and 5 AM from Serpt 1st until June 1st	
Haines	Haines	Yes	Yes	No*	Yes	16 years or older, valid driver's license, proof of insurance, must display hand signals while making turns if machine not equipped with turn signals	Equipment originally installed shall be in good working order, lighted headlight and tailight at all times	<25 mph	no snow machine or ATV use within confines of Tlingit Park or the Fort Seward parade grounds bewtween 9 PM to 9 AM	
Homer	Kenai Peninsula	Yes	Yes	No*	No*	Default to State Provisions				Beach is open for atv use and travel
Hoonah	Hoonah-Angoon	Yes	Yes	No*	Yes	Must have driver's licence, be 16 years or older, vehicle must obtain permit, must wear protective head gear	Protective shield over all moving parts, reflectors on sides of cowling	N/A	Operation allowed bewtween 6 AM and 9 PM except fridays and saturdays where they may be operated until midnight	
Hooper Bay	Kusilvak	Yes	Yes	No*	Yes	Default to State Provisions				
Nome	Nome	Yes	Yes	No*	Yes	If under 16 must be under direct supervision of adult, valid drivers license, must drive on far right of roadway and on shoulder if available, must wear helmet		<20 mph	N/A	If an alternative route is available that will not violate regulations it must be taken; Local police implied they do not enforce on local roads.
Craig	Prince of Wales-Hyder	No	Default to State Provisions							
Delta Junction	Southeast Fairbanks	No	Default to State Provisions							State troopers said ATV/snowmachine use is predominant; enforcement is lax unless user is blatantly speeding
Valdez	Valdez-Cordova	Yes**	Yes	No*	Yes	Motor vehicle operator's license, hard protective head gear	Default to State Provisions	N/A	Operation allowed between 6 AM and 11 PM, except Friday and Saturday allowed until midnight	No policy on ATV; In or within 100' of ski area or within 100' of ice rinks
Wasilla	Matanuska-Susitna	Yes	Yes	No*	No*	Valid driver's license, carry proof of registration, liability insurance, carry proof of insurance, wear DOT approved crash helmets, 16 or older unless supervised by adult	Red light mounted on rear visible at 500',	10 mph or less on right of way, 5 mph in congested areas or parking lots	Operation allowed 8 AM to 10 PM within city limits	Allowed on right of way of all roads, not allowed within 20' of railroad track unless crossing
Fort Yukon	Yukon-Koyukuk	Yes**	Yes	No*	Yes	City permit & 14 or older	Default to State Provisions	<15 mph	N/A	Local police indicated that snowmachine regulations apply to ATVs

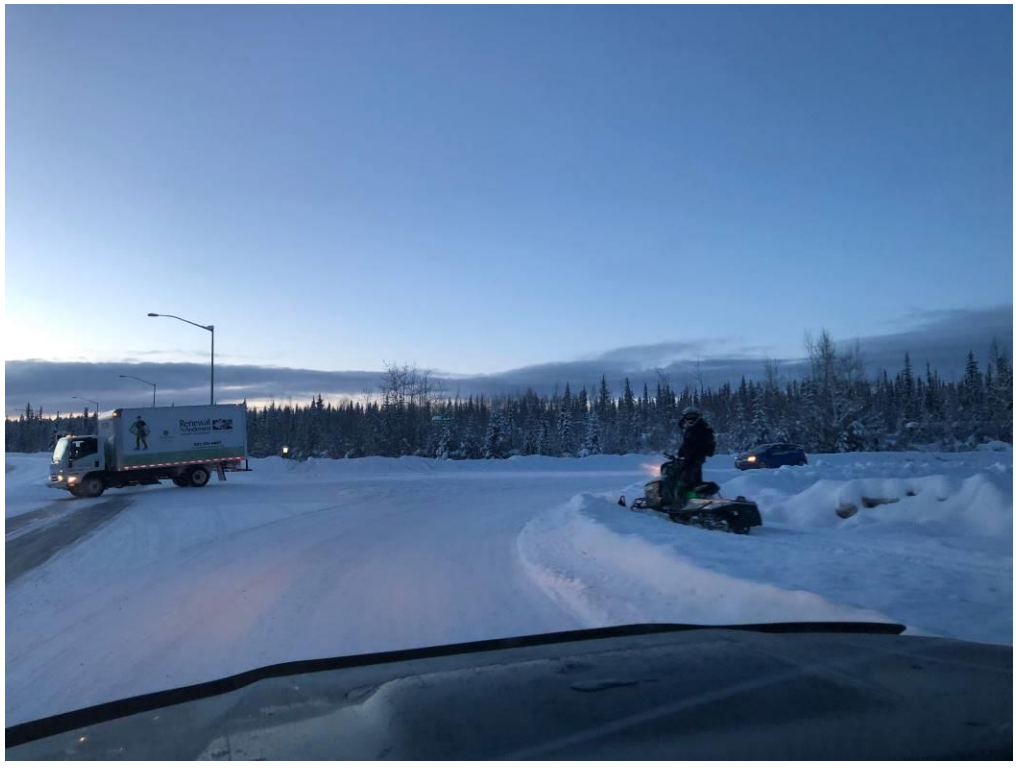
* Special provision exists

** Policy on snowmachines only; ATVs categorized as snowmachines because of low-pressure tires

Aurora Drive, Fairbanks

Farmers Loop, Fairbanks

Geist Road, Fairbanks



Petersville Road, Petersville

CHS Road, Fairbanks

Edgerton Hwy, Chitina

Mitchell Expy Bike Path, Fairbanks

Airport Way, Fairbanks

Richardson Hwy, Delta Junction

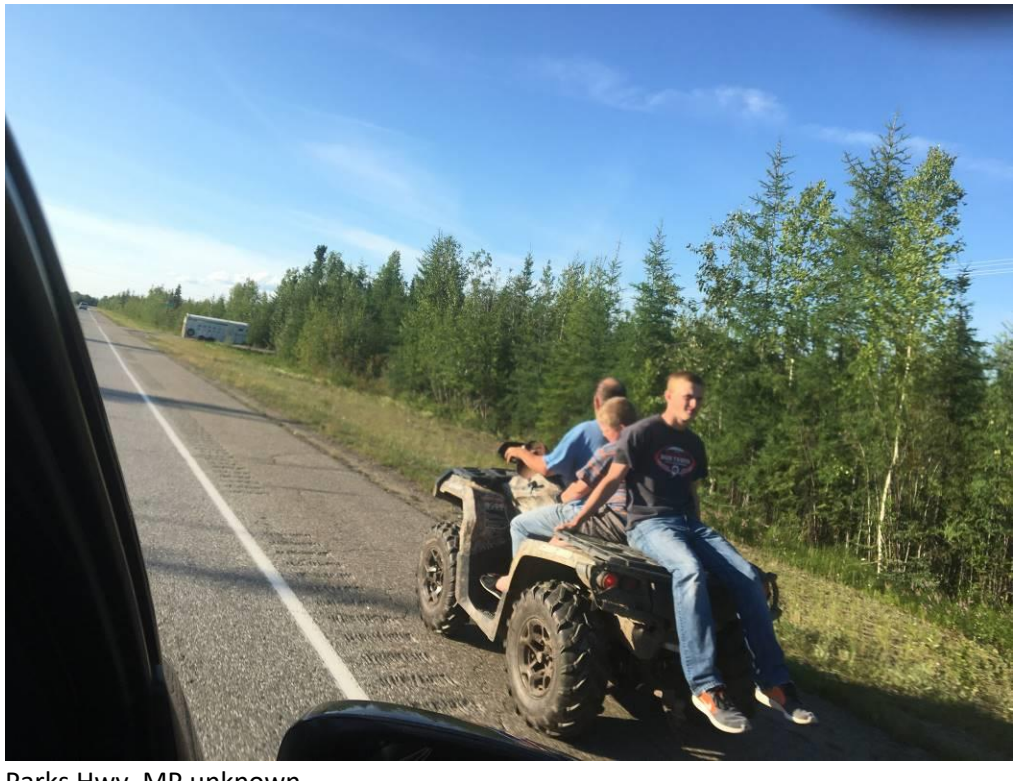
Geist Road, Fairbanks

Geist and University Ave., Fairbanks

College Road, Fairbanks

Steese and Johansen Expy, Fairbanks

College Road, Fairbanks



Parks Hwy, MP unknown

Ballaine Road, Fairbanks

30th Ave, Fairbanks

Sheep Creek Bike Path, Fairbanks

Sheep Creek Bike Path, Fairbanks

Parks Hwy Bike Path, Fairbanks

Parks Hwy Bike Path, Fairbanks

Old Nenana Highway, Ester

Murphy Dome Road, Fairbanks

Goldstream Road, Fairbanks

Chena Pump Road, Fairbanks

Parks Highway , Fairbanks

Chena Pump Rd and Dartmouth Dr., Fairbanks

Johansen Expy, Fairbanks

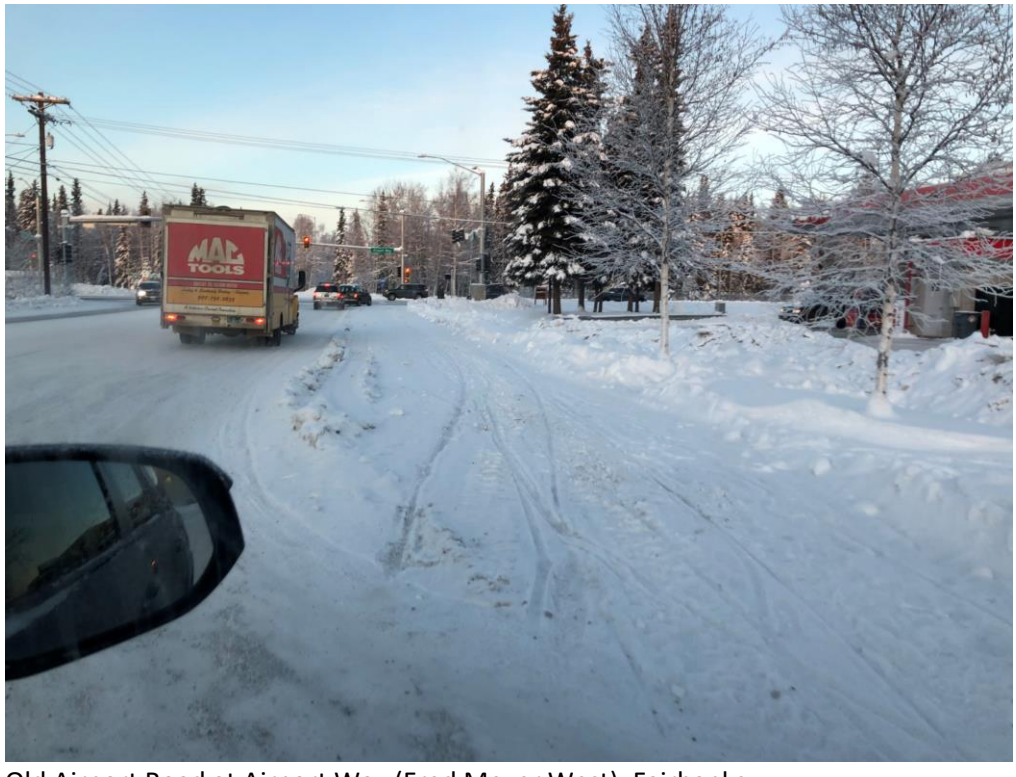
University Avenue, Fairbanks

Farmers Loop Bike Path, Fairbanks

Parks Hwy Bike Path, Fairbanks

Old Airport Rd at Airport Way (Fred Meyer West), Fairbanks

Old Airport Rd at Airport Way (Fred Meyer West), Fairbanks



Old Airport Road at Airport Way (Fred Meyer West), Fairbanks

Fred Meyer West at University Ave. South, Fairbanks

http://www.newsminer.com/news/local_news/agencies-form-their-plowing-plans-to-grapple-with-snow-removal/article_8b566936-1a5e-11eb-8e52-23064444781d.html

Agencies form their plowing plans to grapple with snow removal

Alena Naiden, anaiden@newsminer.com
Oct 30, 2020

Two snow plows clear the area of Fifth Avenue between Noble and Barnette streets on Wednesday, Oct. 28, 2020, in downtown Fairbanks. Alena Naiden/News-Miner

Fairbanks agencies kicked off snow plowing last week and are planning to creatively work around staff and budget shortages this winter.

For what to expect this year, city and state officials met virtually at the third Annual Winter Maintenance Forum, hosted by the Fairbanks Area Surface Transportation Planning agency, which promotes country-wide transportation initiatives. Fairbanks resident Peter Stern attended the meeting and expressed appreciation for the work the agencies are doing.

“They have a limited budget, limited number of manpower. They are trying to be creative in how to address the main issues and the slippery roads,” he said. “They do the best they can.”

Most of the roads in the city of Fairbanks are maintained by the city’s Public Works Department, which started plowing Monday. The agency will plow streets that get impassable first, and then will attend to each neighborhood on a rotating schedule posted on their website, covering each street two to three times per season. After plowing snow, Public Works staff will put it on sidewalks before carrying it to storage sites such as Arctic Park, Hamilton Acres and Public Works Facility.

Stern, who walks across the city daily to exercise, said that because of the practice, “sidewalks are becoming impassable for several days until they get the snow out.”

Public Works Director Jeff Jacobson explained that the city doesn’t have resources to carry the snow away immediately, and storing it on sidewalks allows “to open the streets as fast as possible and let people get out of their driveways.”

With limited resources, Public Works staff are finding creative ways to get the work done. This past spring, they implemented side dumps that carry two times more snow than their regular equipment. This fall, they will also use a new snow raider for plowing and de-icing pathways. Public Works staff has nine permanent employees for snow maintenance work and hire up to 30 people seasonally.

“My staffing level at public works for the last 30 years has not increased one position,” Jacobson said during the meeting. “But the amount of roads and sidewalks we maintain has gone up exponentially.”

Public Works usually hires the night shift in the middle of November when “there is enough snow to put them to work and the potential of more snow coming,” he said. The street supervisor, Marlene Wheeloc, said she has a list of the people to hire ready.

DOT plowing

Another agency doing winter maintenance in the Fairbanks area is the Department of Transportation which takes care of interstate highways such as Parks Highway, the biggest city connectors such as Airport Way and Steese Highway, and some of the smaller local roads.

The department started plowing on Oct. 19 and will clean roads according to their priority ranking posted at dot.alaska.gov/stwdmno/wintermap. The lower the priority, the longer it might take for the department to get to the roads, and while cleaning high-volume, high-speed highways should happen no later than 12 hours after the snowfall, the least trafficked paths will be cleared only in spring.

Dan Schacher, Fairbanks district superintendent for the department, said because of budget limitations, snow plowing work will be a challenge this year.

“If we get an average snow event, we will be fine at plowing snow, but if we get extra snow, back-to-back multiple events or a freezing rate event, we are going to really struggle to meet those performance targets,” he said. “Flat out, we just don’t have the resources to meet those all the time.”

In the past five years, the department’s budget was cut by 31%. As a result, they closed five maintenance stations and lost some equipment and personnel, he said.

To work with limited resources and clean more space with less equipment and staff, the department added wings to their plows and is using expandable plows and tow plows to attend to low priority roads faster. They added plows in front of four trucks and will borrow people from construction sections to run them.

“The whole point of this is to do more with less,” he said. “To cover the same amount of miles with fewer vehicles and fewer operators and try to take our times down and improve the level of service for the public.”

To salt or not

When it comes to winter maintenance, one of the most controversial practices the state is doing is using salt brine on roads. The material improves traction on roads and prevents cars from slipping, but it can also cause rust and damage on vehicles.

Schacher said the department is using salt as sparingly as they can and applying it to roads before the snowfall, not after. Doing so helps keep the amount of chemicals at a minimum, reduces rusting for cars and improves safety for drivers.

Another agency involved in winter road maintenance in the Fairbanks area is North Star Borough’s Parks & Recreation that attends to some sidewalks, trails, bus stops and parking lots. For them, some of snow maintenance means grooming instead of plowing since snow on trails and pathways makes them skiable.

For city agencies plowing and residents trying to get places, more snow means more trouble.

While it is too early to predict how snowy this winter will be, according to the Farmer’s Almanac, November will bring mild snowfall to Fairbanks. Meanwhile, the U.S. National Oceanic and Atmospheric Administration points out La Nina, which is expected through the 2020 winter season, will probably result in a “typical, cooler, wetter North.”

Schacher, from the Department of Transportation, stays hopeful.

“Everything can change in a blink of an eye,” he said, pointing out how the forecasts of the driest winter would turn into reports of abnormal amounts of precipitation in the past. “You just never know with Alaska.”

Contact staff writer Alena Naiden at 459-7587. Follow her at twitter.com/FDNMlocal.

http://www.newsminer.com/opinion/letters_to_editor/wheres-the-plowing/article_e1e82a40-29f0-11eb-9239-87e7290d66f7.html

Letter to the Editor

Where's the plowing?

Jim Richardson, Fairbanks
Nov 19, 2020

To the editor: It has become apparent that the city, at least during the winter, has figured out a way to eliminate speeding in residential areas. They simply leave the roads unplowed for weeks at a time. They are so rough now, at least in the Weeks Field area, that one is risking damage to his/her vehicle going over 15 mph. (Please note that the speed limit for all city streets is 20 mph unless marked otherwise.)

There is an additional problem. Most of those streets do not have sidewalks, so residents have to risk a twisted ankle or, worse, walking on them. The streets with sidewalks are just as bad as they haven’t been plowed in over a week if at all since the heavy snowfall. Is this what we want? Is this what we are willing to settle for? Please make you opinion known to the mayor. We need snow removal to be reviewed to see if there are better ways to do it and also set goals that the city can be proud of. If attaining the goals would cost more money, then let the residents have the final say. Let’s beautify our city during the winter as well as the summer.

http://www.newsminer.com/opinion/letters_to_editor/poor-city-snowplowing/article_27fb13ea-2d42-11eb-b6c2-5f42c2ff91dd.html

Letter to the editor

Poor city snowplowing

Carmen Brooks, Fairbanks
Nov 23, 2020

To the editor: I agree with the letter to the editor published Nov. 19 entitled, “Where is the plowing?” I especially agree with the author’s statement that it is not just the roads but also the sidewalks that are treacherous. Even to date (weeks after the last snowstorm) the sidewalks on Southside (which were just upgraded a few years ago) on either side of South Cushman to downtown are still not cleared.

In order for me to walk from my apartment on Turner Street to the Co-op Market on Gaffney Road to buy groceries, I have to navigate a narrow foot path that is only made possible because pedestrians have gone before me packing down the deep snow into a narrow meandering walking path. Last week, prior to the path appearing, I had to walk out in the busy two-way traffic of South Cushman Street in order to navigate the trip by foot.

You would think that removing the snow from the sidewalks of South Cushman would be a higher priority because of the higher number of pedestrians on Southside combined with the fact that Southside is a food desert and that residents might have to walk more than a mile to buy food because there is not a grocery store on this side of town. It is also very disappointing to me that the local businesses on this side of town who obviously make huge efforts to plow their parking lots for their customers to do not also think to clear the sidewalks in front of their businesses in order for their neighbors to safely walk by.

http://www.newsminer.com/opinion/letters_to_editor/snow-removal/article_0921c1c0-3504-11eb-a225-237502e962ff.html

Letter to the editor

Snow removal

Gene Salzman, Fairbanks
Dec 3, 2020

To the editor: A good deal of snow fell Nov. 5 and 6. I fully realize Public Works can't clear all the streets at once. On the north side of Airport Way between University Avenue and Peger Road, Park Drive and Coppet Street were cleared of snow right down to the road surface. This was probably done on Nov. 23 — that date a road grader passed by my house on Riverview Drive. The grader went by once — down to Peger Road and back. If he had raised his blade 1 inch, he would have plowed nothing but air. Very little hardpack was being moved to make a halfway smooth driving surface. It is better than it was, but nothing to brag about.

I'm sure it's not the workers who decided to do those two streets and then leave. Had to be some management involved.

Are the rest of the residents who live in that area second-class citizens or is there a certain person who lives in that area who has a lot of pull with the mayor and/or Public Works director? The mayor and Public Works director need to get out and look at this area. Another area is Doyon Estates, which is across the river — the streets are clean down to asphalt. Now it took a lot of passes with a grader to do that job. Maybe the problem is the grader operator. Something needs to be done. I have lived at my residence for 45 years. This has to be the very worst year ever for winter street maintenance.

GOAL

Promote more effective collaboration between agencies, their outreach efforts, and their implementation of maintenance practices to enable year-round use of all pedestrian and vehicle facilities within the MPA.

POSSIBLE ACTIONS (not in priority order)

1) Expand Seasonal Mobility Task Force (SMTF) to include representatives of:
    - Senior community
    - Disability community
    - Low-income & homeless community
    - Active transportation
        - Someone on foot (Frosty Feet?)
        - Someone on bike (Fairbanks Cycle Club?)
        - Someone from Health & Wellness
    - Tourism Industry
2) Update the SMTF Mobility Recommendations Report (2010) to reflect accomplished goals and identify potentially new actions to meet the ones that have gone unaddressed
    - Address gaps/needs assessment
    - Embrace Fairbanks as a "winter city" in planning processes and leverage the work other communities have already done to solve their winter maintenance issues
        i. Barriers to physical activity in the winter can break down to two categories: attitudinal and physical
    - Identify levels of services and the disparities/similarities between agencies
    - Add performance measures? (ex. Time until bare wheel path after conclusion of snowfall).
3) Create a new "Agency Responsibility & Pedestrian Generator Map" that is interactive and includes the following features:
    - Agency maintenance responsibility & contact information
    - Maintenance priorities
        - Existing: DOT & FNSB
        - Create: CoF & CoNP
    - Pedestrian generators
        - Schools
        - Bus stops
        - Hospitals
        - Senior centers
        - Major centers of retail and employment
        - Critical public facilities (fire stations, police stations, etc.)
4) Explore new maintenance partnerships with SMTF
    - "Horse Trades" between agencies
    - Contracting out some maintenance activities which could:

        - Stimulate local economy
        - Alleviate Public Works of snow removal related responsibilities; allow them to focus on other issues including outreach
        - Address equity/disparate impacts by allowing for more plows to work at the same time across the community
        - Align the snow removal practices with the FNSB and CoNP; aside from Parks & Rec responsibilities
    - Relying on a local non-profit to assist with maintenance (Fairbanks Senior Center sponsored snow-removal?)
    - Identify community-driven efforts (i.e., adopt-a-sidewalk, shovel competition, snow fairies, etc.)
        - Golden Shovel (competition between businesses)
        - The City of Chicago has developed Chicago Shovels, "a tool to help connect the public with City winter resources and empower neighbors to come together to help Chicago navigate winter." The program employs **positive messaging** coupled with **action opportunities** that stress the shared snow removal responsibilities between residents, neighbors and the city during a snow event.
    - GIS tracking on snow plows to increase the transparency of snow removal practices
5) Discuss equity with SMTF
    - Cite references in other communities that demonstrate the disproportionate allocation of resources and how it was impacting the population on bike/foot/etc
        i. Sweden
        ii. Boulder, CO
        iii. Toronto, ON
        iv. ADA & Snow Removal
6) Discuss conformity to Federal Laws & Regulations with SMTF
    - Identify ways this is not being met and *how* to improve upon that…
    - Identify examples where this is being met

Date: February 17, 2010

FAIRBANKS METROPOLITAN AREA TRANSPORTATION SYSTEM (FMATS)
RESOLUTION NO. 2010-02

AN FMATS RESOLUTION SUPPORTING THE SEASONAL MOBILITY TASK FORCE RECOMMENDATIONS REPORT

WHEREAS, the FMATS Policy Committee supports the goals of Seasonal Mobility Task Force as they address important issues affecting year-round mobility on pedestrian and bicycle facilities within the FMATS boundary; and

WHEREAS, rising unemployment rates and fuel costs are increasing the number of individuals reliant upon mass transit, walking and bicycling as primary means of transportation; and

WHEREAS, winter mobility is a critical issue for disabled and senior citizen populations whose livelihood and independence are highly dependent upon a consistent and reasonable level of access; and

WHEREAS, the implementation of well-defined maintenance performance guidelines will ensure compliance with regulations set forth by the Federal Highway Administration and the Americans with Disabilities Act; and

WHEREAS, a coordinated and prioritized maintenance, rehabilitation and expansion effort will ultimately result in improved connectivity and increased safety along key pedestrian and bicycle routes; and

WHEREAS, the reevaluation of current bicycle and pedestrian facility maintenance efforts may reveal opportunities to decrease the risk of liability, improve operational efficiency, and maximize the useful life span of the facilities.

NOW, THEREFORE BE IT RESOLVED, that FMATS supports the Seasonal Mobility Task Force Recommendations Report.

BE IT FURTHER RESOLVED, that copies of this resolution be forwarded to the Alaska State Department of Transportation and Public Facilities, the Fairbanks North Star Borough Assembly and the City Councils of Fairbanks and North Pole.

PASSED AND APPROVED THIS 17th *DAY OF FEBRUARY, 2010.*

Steve Titus

Steve Titus, P.E.
FMATS Policy Committee, Chair

FMATS Seasonal Mobility Task Force

Mobility Recommendations Report
2009-2010 Winter

FMATS
Fairbanks Metropolitan Area Transportation System

FMATS

February 17, 2010

Steve Titus, P.E.
FMATS Policy Committee Chair
DOT&PF, Northern Region
2301 Peger Road
Fairbanks, Alaska 99709

Dear Mr. Titus,

The FMATS Seasonal Mobility Task Force (SMTF), charged by the Policy Committee with the task of exploring the overall issues surrounding mobility and strategizing solutions, presents this report for consideration and implementation.

In a changing economic climate, providing for alternative modes of transportation and maintaining existing facilities is of growing importance. As unemployment rates rise and our population ages, an increasing number of Fairbanks residents are forced to turn to mass transit, walking and bicycling to access important destinations such as jobs and medical appointments.

Improving mobility in the FMATS area requires coordination on both construction and maintenance along access routes. Consistent, reliable efforts must be made by all participating agencies in order to ensure connectivity and access for all users. These recommendations provide a framework for achieving this goal.

Thank you for this opportunity to serve the Fairbanks area community. It is the hope of the Task Force that the FMATS Policy Committee will sign a resolution of support for this document and extend the life of the SMTF to allow for the further development of a strategy and a timeline for implementation.

Sincerely,

Tara L. Callear

Tara Callear
Seasonal Mobility Task Force Chair

FMATS Seasonal Mobility Task Force

Tara Callear
Seasonal Mobility Task Force Chair
MPO Planner, FMATS
tlcallear@ci.fairbanks.ak.us

Brad Carlson
Maintenance and Operations, City of Fairbanks
btcarlson@ci.fairbanks.ak.us

Art Delaune
Information and Referral Coordinator, Access Alaska
adelaune@accessalaska.net

Dave Ferree
Superintendant of Facility Maintenance, Fairbanks North Star Borough School District
dferree@northstar.k12.ak.us

Donna Gardino
MPO Coordinator, FMATS
djgardino@ci.fairbanks.ak.us

John Haas
Parks Superintendent, Department of Parks and Recreation, Fairbanks North Star Borough
jhaas@co.fairbanks.ak.us

David Leone
Borough Transportation Manager, Fairbanks North Star Borough
dleone@co.fairbanks.ak.us

Glenn Miller
Transportation Director, Fairbanks North Star Borough
gmiller@co.fairbanks.ak.us

Clark Milne, P.E.
Maintenance Engineer, DOT&PF, Northern Region
clark.milne@alaska.gov

Steve Potter
Statewide Maintenance and Operations Specialist, DOT&PF, Northern Region
steve.potter@alaska.gov

Sean Rice
Maintenance and Operations, City of Fairbanks
sprice@ci.fairbanks.ak.us

Michelle Roberts
Executive Director, Festival Fairbanks
michelle@festivalfairbanks.org

Michael Schmetzer, P.E.
Director of Public Works, City of Fairbanks
mjschmetzer@ci.fairbanks.ak.us

Rebecca Traylor
Wall Busters- Disability Advocacy Group Representative
tray-j@hotmail.com

David van den Berg
Executive Director, Downtown Association of Fairbanks
dvandenberg@downtownfairbanks.org

Introduction

The Winter Mobility Task Force was formed following a Sidewalk Summit meeting hosted by the City of Fairbanks in January 2009. FMATS took on its coordination as part of achieving the organizational goal of maximizing, for ALL users, the utility of FMATS' infrastructure investments. The request later came from the FMATS Policy Committee for this group to broaden its focus to year-round mobility. Under its new title, the Seasonal Mobility Task Force (SMTF) was charged with exploring, in the FMATS area, the issues related to travel by means other than a personal vehicle and strategizing solutions for improved mobility.

Year-round maintenance coupled with focused rehabilitation and expansion plans have been identified as the key to providing safe user access along pedestrian and bicycle facilities. Likewise, these efforts would serve to maximize the useful lifespan of the facility and help in meeting federally mandated maintenance and ADA regulations.

With snow conditions persisting for nearly half the year, winter maintenance is a critical issue; especially for the disabled and senior citizen populations whose livelihood and independence are highly dependent upon a reasonable level of access. According to the 2000 Census this demand is on the rise, as Fairbanks has seen a senior population increase of 47% and a disabled population increase of 24%. These statistics are evidence that a clearly defined standard for the level of winter maintenance service to be expected along pedestrian access routes is a growing necessity that would greatly improve these individual's quality of life.

Seasonal Mobility Task Force Goals

1. Consistent year-round routine maintenance that is above and beyond compliance with ADA standards on facilities throughout the FMATS pedestrian and bicycle network
2. Preservation of the existing pedestrian and bicycle network through preventive maintenance
3. Rehabilitation and expansion of the FMATS pedestrian and bicycle network to provide for safe access for ALL users
4. Increased user confidence in pedestrian and bicycle safety and accessibility

A survey released in March 2008 by the Access Alaska Wall Busters group further emphasizes this need. The survey revealed that winter access to transit is the single largest barrier to people with disabilities. This obstacle translates into a drastic seasonal shift from the MACS fixed route transit system to the more costly Van Tran paratransit service, according to the data submitted to the National Transit Database. Due to the fact that the Van Tran services are more costly to operate, improving year-round access to the fixed route system would not only expand the options for transportation, but also save taxpayer dollars.

Funding limitations are often to blame for any lack of maintenance and connectivity along pedestrian and bicycle facilities; however, cost savings could actually be achieved by improving

maintenance efforts. Reducing inefficiencies such as seasonal shifts to paratransit services and maintenance area overlaps could help to offset the cost of the needed improvements. Additional cost savings can be achieved through the reduced risk of liability. Safety becomes a major concern facilities are inadequately maintained.

Recommendation Summary

The SMTF recommends the following actions to address this issue:

1. Present the Seasonal Mobility Task Force recommendations to the FMATS Committees for endorsement

2. Develop consistent performance standards and performance guidelines agreed upon by all applicable agencies

3. Improve interagency communication and coordination regarding facility maintenance

4. Encourage the revision and enforcement of the City of Fairbanks Ordinance General Code Sec. 70-321

5. Adopt a Complete Streets Policy for federally funded road projects within the MPO

6. Develop a comprehensive Pedestrian and Bicycle Plan for the FMATS area

7. Conduct an air quality improvement analysis on proposed major bicycle corridor construction projects

8. Increase public awareness of pedestrian and bicycle facilities

Facility Winter Maintenance Responsibility Analysis

The SMTF's initial strategy was to conduct an analysis of winter maintenance efforts along the existing pedestrian and bicycle network within the FMATS area, excluding North Pole (future bicycle and pedestrian planning efforts will include improving overall regional connectivity).

There are four agencies that assume responsibility for winter facility maintenance in the focus area. Currently, there is minimal coordination and no shared performance standards defining the level of service to be expected in the winter months. As a result, there are gaps in the areas of service, inconsistencies in response time and variability in the quality of service. ADA requirements are being met to varying degrees.

- **City of Fairbanks**, General Code Sec. 70-321 addresses sidewalk maintenance:
  (a) No person having the care, either as owner or occupant, of any premises bordered by a graded or paved sidewalk shall fail to remove promptly any snow which may fall on nor fail to remove or sand any ice which may form on the sidewalk to the extent that the snow or ice is an impediment to pedestrians.
  (c) The minimum penalty for violation of this section shall be $50.00 plus the actual cost of snow removal by the city if the person having the care of the area does not respond within 24 hours of warning.

  This ordinance, passed in 1960, predates the Americans with Disabilities Act (ADA) of 1990. This City ordinance is upheld with minimal enforcement.

- **Fairbanks North Star Borough**, Parks and Recreation Department assumes responsibility for clearing the snow adjacent to its property, including regional parks and public buildings, totaling over 25,000 linear feet of bike paths and sidewalks. Although no performance standards are defined, the facilities are said to be maintained "promptly" with each snow event regardless of the size of the event.

  Although the FNSB Transportation Department manages the MACS Transit system, there is no single department or agency responsible for winter maintenance in the areas around bus stops and bus shelters.

According to the National Transit Database reports, there is a significant seasonal shift in ridership trends from MACS to Van Tran. This shift is due partly to impassable pedestrian facilities. Van Tran services cost nearly 10 times that of the same trip on the MACS system.

- **Festival Fairbanks**, a 501(c)(3) non-profit organization, maintains a small section of the sidewalks within the Fairbanks downtown core area. The Clean Team does this without a contract or direct funding from the City of Fairbanks. The funds are limited and are granted mostly from gaming revenue. The organization budgets for year-round facility maintenance currently, but these funds may not be available in the future.

- **DOT&PF,** Northern Region maintains the bike and pedestrian facilities associated with the roadway facilities for which they are responsible. DOT&PF is currently redefining their performance standards and is implementing changes in priority and routes. Changes will include improving response time on pedestrian facilities following a snow event, by making pedestrian facility priority equivalent to that of the adjacent roadway. As a courtesy, the DOT clears some areas around bus shelters, including some detail work once other priorities are fulfilled. This service is neither consistent nor contracted.

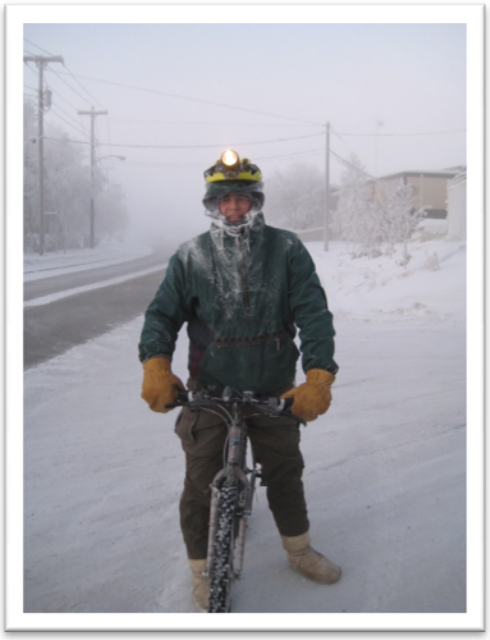
Agency Responsibility and Pedestrian Generator Mapping

The Task Force also worked with the Fairbanks North Star Borough Planning Department to develop a map of the areas covered by the various responsible agencies. The map also illustrates priority traffic generators such as:

- Schools,
- Bus Stops,
- Critical public facilities,
- Major centers of retail and employment,
- Hospitals, and
- Senior Centers.

The current and proposed maintenance areas illustrated on this map combine to form a connected pedestrian and bicycle network that provides reasonable winter access to the identified traffic generators. The Agency Responsibility and Pedestrian Generator map is attached as Appendix A. It clearly shows overlaps and gaps in the areas of service for pedestrian and bicycle facility maintenance. The map will be a useful tool for developing both independent and collaborative strategies for improving the efficiency and effectiveness of winter maintenance efforts and should be kept up to date with improvements.

Recommended Actions



Operational and institutional-level improvements are recommended in order to affect and sustain a usable pedestrian and bicycle network where resources are coordinated, integrated and leveraged in a manner that provides consistent and safe facility access for all persons year-round, including those with special needs.

A plan of action is needed to guide the development of a bike and pedestrian network that is accessible to all users year-round. The following is a list of recommended steps to be undertaken efficiently to bring a well maintained pedestrian and bicycle network online. These actions may occur simultaneously.

1. **Present the Seasonal Mobility Task Force recommendations to the FMATS Committees for endorsement**

   A. FMATS Technical Committee review of the Seasonal Mobility Task Force Report

      a. Present the report to the Technical Committee for review and comment

      b. Request a motion to forward the report to the Policy Committee

   B. FMATS Policy Committee approval of the Seasonal Mobility Task Force Report

      a. Present report to the Policy Committee for review and comment

      b. Request a motion to pass a resolution in support of the report

   C. Responsible agency implementation of the Seasonal Mobility Task Force Report

      a. Present report and resolution to participating agencies

      b. Meet with representatives from individual agencies to obtain feedback and to provide implementation assistance

2. **Develop consistent sets of performance standards and performance guidelines for use by all agencies**

   A. FMATS staff work with DOT&PF Planning to amend the Maintenance Agreement language to more clearly define the ADA and FHWA regulations regarding facility maintenance

      a. Consider the incorporation of specific performance standards as required levels for facility maintenance on a case by case basis for all pedestrian and bicycle facility projects

      b. Those considerations not incorporated into the Maintenance Agreements should be added to a list of maintenance performance guidelines as recommendations for voluntary compliance to further ensure consistency in services across the FMATS Pedestrian Network

Suggested Performance Guidelines

- SNOW EVENT: defined as 2" minimum accumulation
- END OF SNOW EVENT: 24 snow-free post event hours
- #1 PRIORITY FACILITY: response time within 72 hours of a snow event
- SIGNIFICANT SNOW EVENT: >6" accumulation; 72 hr response does not apply
- NO SERVICE: Temperatures below -30F suspends services until conditions pass
- Two or more back to back snow events of more than 2" in a single week resets the 72 hour response time clock to the end of the last in the series of events
- SNOW CLEARANCE WIDTH: Sidewalk clearing minimum width is 36"
- ADA CURB CUTS: brushing response time within 72 hours
- SPRING MAINTENANCE: Sweep gravel from facilities by June 1st
- FACILITY PRIORITIZATION: base pedestrian and bicycle facility maintenance on traffic generators rather than strictly upon the priority of the associated roadway
- SNOW REMOVAL is recommended at bus stops, bike lanes and widened shoulders

3. Improve interagency communication and coordination regarding facility maintenance

A. Each responsible agency, including FMATS, assign representative(s) to participate in an interagency coordination team that meets seasonally to discuss:

a. Reprioritization of pedestrian facility winter maintenance routes based on pedestrian generators rather than strictly based upon road classifications

b. Performance guidelines effectiveness and potential improvements

c. Seasonal maintenance and risk management issues such as daily activity records, hazards, incidents, safety, as well as budgetary concerns and funding strategies

d. Prioritize pedestrian and bicycle preventive maintenance wish lists and submit to FMATS annually in the fall

e. Elimination of overlap or gaps in maintenance services provided
- Identify opportunities for cooperation through the trading of responsibilities to achieve more efficient operations and make better use of maintenance funds

4. Encourage the revision and enforcement of the City of Fairbanks Ordinance General Code Sec. 70-321

A. The City of Fairbanks (COF) representatives of the FMATS Technical Committee are recommended to work with a City Council sponsor to revise the Ordinance based on:

a. The ordinance was written in 1960, predating the ADA of 1990

b. FMATS is in the process of designating a Pedestrian Network and is recommending that all agencies responsible for facilities along the network participate in a coordinated effort to better comply with ADA standards (areas NOT included in the defined FMATS Pedestrian Network would remain the responsibility of the property owner, as currently stated in the Ordinance).

c. The maintenance agreements that must be signed prior to constructing a project with FMATS funds, defines ADA and FHWA requirements for maintenance

5. Adopt a Complete Streets Policy for federally funded road projects within the MPO

A. Integrate into the 2011-2012 UPWP the development of a policy that ensures that local road projects which use federal funding will safely accommodate all users of a corridor including pedestrians, bicyclists, users of mass transit, people with disabilities, the elderly, motorists, freight providers, emergency providers and adjacent land users.

6. Develop a comprehensive Pedestrian and Bicycle Plan for the FMATS area

A. Utilize the maps developed by the Task Force to define the FMATS Pedestrian Network based on the existing facilities.

B. Facilitate the first phase of the Fairbanks area Safe Routes to School Program

   a. Conduct a pedestrian facility condition and safety assessment within a half mile radius area around all of the elementary and middle schools in the FMATS area.

C. Identify funding for conducting a network-wide conditions assessment to prioritize needs for rehabilitation and construction

D. Establish a Bicycle and Pedestrian Action Committee (BPAC), including FMATS Technical Committee members

   a. Identify community stakeholders and involve them in Committee activities as active or advisory BPAC participants

   b. Review critical public and private sector projects that might impact the bicycle and pedestrian projects as they come on line

c. Work with the FMATS Preventive Maintenance (PM) Subcommittee to direct annual PM program funds to pedestrian and bicycle facility priorities

d. Make annual PM program recommendations for pedestrian and bicycle facilities

E. **Define a continuous winter route along bike paths that is not maintained for the benefit of skiers**

a. Identify bicycle and recreation paths currently not maintained during the winter

b. Consider maintenance and lighting for routes to increase the recreational value of the facility during the winter months

7. Conduct an air quality improvement analysis on proposed major bicycle corridor construction projects

A. Work with DEC and the FNSB to quantify the air quality benefits of major pedestrian and bike corridor projects

B. Analyze the air quality benefit due to the potential transportation mode shift from vehicle to pedestrian or bicycle based on the addition of a new facility

8. Increase public awareness of pedestrian and bicycle facilities

A. Establish an Adopt-a-Stop program specifically focused on improving winter facility maintenance at high frequency MACS transit stops

a. Develop a minimum set of winter maintenance guidelines for program participation

b. Encourage a citizen's group to ultimately play an important role in the coordinating and advocacy of the program

B. Update and reprint and circulate bike maps

C. Establish a baseline level of public expectation of services provided to increase user confidence and gain support for tax payer services and reduce risk of liability

a. Clearly define level of service to be expected on agency websites and provide contact information for submitted questions, concerns or complaints

b. Publicize maintenance improvement efforts through news releases


Proposed Route
FNSB Responsibility
City of Fairbanks Responsibility
D.O.T. Responsibility
Top 50 Employers
Bus Stops
Schools & Facilities
Parcels
NORTH
University Of Alaska-Fairbanks
US Land Management Bureau
West Valley High School
University Ready Mix
Alaska Railroad Corp
Carlile Transportation Systems
Cooks Auto Mall
Fish & Game Dept
Wedgewood Resort
Golden Valley Electric Assn
Sam's Club
Safeway
Fred Meyer
Home Depot
Lowe's
Wal-Mart Supercenter
Seekins Lincoln Ford Mercury
First Transit Inc
Denali Bancorp Inc
Tanana Chiefs Conference Inc
Westmark Fairbanks
Fairbanks City Hall
Valley Clinic's
Fairbanks Resource Agency
Lathrop High School
Fairbanks Memorial Hospital
Chief Andrew Isaac Health Ctr
Denali Center
Fairbanks Parks & Recreation
Pike's Landing
Sears
Family Centered Svc Of Alaska
Pioneers Home
Sophie Station Hotel
Alaska Transportation Mntnc
Department Of Transportation
Princess Tours Rail Div
JOHANSEN EXPY
GEIST RD
FARMERS LOOP RD
UNIVERSITY AVE
AIRPORT WAY
STEESE HWY
OLD RICHARDSON HWY
ROBERT MITCHELL EXPY

Guidance to Improve Pedestrian and Bicyclist Safety at Intersections (2020)

DETAILS

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CONTRIBUTORS

Rebecca Sanders, Arizona State University School of Geographical Sciences & Urban Planning, Bill Schultheiss, Belinda Judelman, Rob Burchfield, Toole Design Group, Krista Nordback, Dan Gelinne, Libby Thomas, Daniel Carter, Charlie Zegeer, University of North Carolina Highway Safety Research Center, Conor Semler, Meredyth Sanders, Hermanus Steyn, Paul Ryus, Kittelson & Associates, Inc., William W. Hunter, and Peter Koonce; National Cooperative Highway Research Program; Transportation Research Board; National Academies of Sciences, Engineering, and Medicine

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NCHRP RESEARCH REPORT 926

Guidance to Improve Pedestrian and Bicyclist Safety at Intersections

Rebecca Sanders
ARIZONA STATE UNIVERSITY SCHOOL OF GEOGRAPHICAL SCIENCES & URBAN PLANNING
Tempe, AZ

Bill Schultheiss
Belinda Judelman
Rob Burchfield
TOOLE DESIGN GROUP
Silver Spring, MD

Krista Nordback
Dan Gelinne
Libby Thomas
Daniel Carter
Charlie Zegeer
UNIVERSITY OF NORTH CAROLINA HIGHWAY SAFETY RESEARCH CENTER
Chapel Hill, NC

Conor Semler
Meredyth Sanders
Hermanus Steyn
Paul Ryus
KITTELSON & ASSOCIATES, INC.
Portland, OR

William W. Hunter
Chapel Hill, NC

Peter Koonce
Portland, OR

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2020

Contents

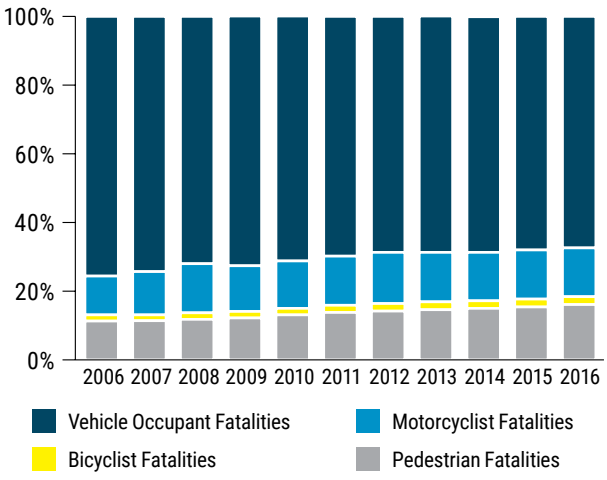
Guidance to Improve Pedestrian and Bicyclist Safety at Intersections: Summary

Background

Organizations across the United States are seeking to improve transportation safety for all modes. Improving pedestrian and bicyclist safety is increasingly important, as these vulnerable roadway users represent almost 20 percent of traffic fatalities despite making many fewer trips proportionally than motorists (NHTSA 2018; see Figure A). With the adoption of safety efforts such as Vision Zero, Toward Zero Deaths, and the Safe System approach by numerous jurisdictions throughout North America, along with their adoption of mobility goals that aim to increase pedestrian and bicyclist travel for health, environmental, system efficiency, and equity reasons, practitioners are increasingly attuned to the need to pay attention to pedestrian and bicyclist safety.

However, despite the wealth of safety resources that exist today, many jurisdictions would benefit from additional help with countermeasure selection to address known safety problems. Some resources provide many options without sufficient help for refining those options, while other resources are specific to selected problems and cannot be widely applied.

Figure A. Deaths from Motor Vehicle Crashes, by Mode



Note: Data exclude nonvehicle occupants not classified as pedestrians or bicyclists. These "unclassified" fatalities represent less than 1 percent of annual traffic-related fatalities.

Source: Fatality Analysis Reporting System (NHTSA 2018)

This Guide seeks to fill these gaps by providing a succinct process for countermeasure selection that helps practitioners understand important questions and considerations for choosing the right countermeasure(s) for their situation. In doing so, this Guide does not seek to replace current countermeasure or safety resources, but rather build on the strengths of these resources, citing them where applicable, and working to tie them together in a coherent way for practitioners. The Guide is relevant to a range of contexts (e.g., facility types, land use patterns, travel speeds) and will help practitioners:

- Understand the difference between reactive and proactive (systemic) safety approaches;
- Understand the importance of creating safe and comfortable intersection conditions for pedestrians and bicyclists;
- Identify safety issues and problems for pedestrians and bicyclists;
- Understand data needs and data limitations related to bicyclist and pedestrian safety;
- Understand the trade-offs between safety, comfort, and operations for different road users;
- Provide strategies to determine modal priorities to facilitate decision-making;
- Assess high-level safety and operational performance of intersections; and
- Choose appropriate countermeasures, countermeasure combinations, and policies to address identified safety issues and goals.

This Guide focuses specifically on intersection countermeasure options because intersections have more potential countermeasures to consider for pedestrians and bicyclists than mid-segment locations. It focuses on countermeasures that address the top five crash types for pedestrians and the top seven crash types for bicyclists, representing 79 percent of pedestrian fatalities and 55 percent

of bicyclist fatalities. An overarching objective is to provide practitioners with fundamental safety, operations, and design principles to develop intersections that address safety needs and match community expectations. However, these principles can be applied to roadway segments as well.

This Guide also covers the potential for practitioners to shift from focusing on specific locations where pedestrian and bicyclist crashes have occurred (reactive or "hot spot" safety) to identifying intersection types and characteristics that have a higher risk of crashes in the future (proactive or "systemic" safety). This approach is particularly applicable to pedestrian and bicycle crashes, which often occur throughout the network in low numbers, yet may demonstrate similar patterns among crash locations. The proactive approach helps support public agency goals to support walking and bicycling usage while improving pedestrian and bicyclist safety. Once potential risk factors have been identified, this Guide can be used to help retrofit safe crossings to address these risks.

Guide Organization

Each of the Guide's chapters is useful as an individual resource; however, the Guide is organized sequentially to provide insight into the safety identification process from beginning (framing the problem) to end (countermeasure selection), following the steps shown in Figure B.

These steps are covered in the various chapters as follows:

Chapter 1: Frame the Process provides a high-level explanation of the key considerations and decisions needed at the outset to ensure a smooth, coordinated effort to address safety.

Chapter 2: Identify and Collect the Data for Analysis explores necessary and optional data types and sources for analyzing and understanding pedestrian and bicyclist safety and risk at intersections.

Chapter 3: Analyze Intersection Safety and Identify Issues presents strategies and methods for using the data and sources identified in Chapter 2 to assess intersection safety and identify risk factors.

Figure B. General Assessment and Approach to Countermeasure Selection

Chapter 4: Identify Treatment Options for Creating Safer Intersections explains how to use identified crash characteristics, risk factors, and other criteria to select potential countermeasures for bicyclists and pedestrians at intersections.

Chapter 5: Refine the Countermeasure Options focuses on considering the needs of bicyclists, pedestrians, and other road users in combination within the land use and transportation context to help refine the countermeasure options.

Chapter 6: Final Countermeasure Selection covers the last two steps of the process, featuring a framework for considering the tradeoffs and effects of safety countermeasures and design improvements that allows agencies to consider benefit-cost calculations and other performance outcomes. This information will help the practitioner finalize the countermeasure selection for an identified location.

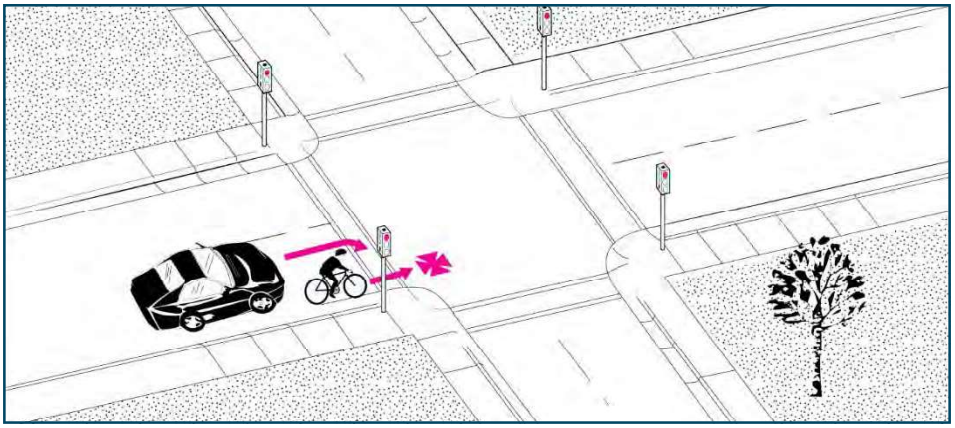
Chapter 7: Conclusions and Epilogue summarizes highlights from the Guide and provides a brief overview of the importance of project evaluation as an epilogue to the countermeasure selection process.

Appendix: Countermeasure Glossary expands on the countermeasures covered in Chapter 4 by providing key information for practitioners to consider when applying Chapters 5 and 6 to refine and finalize countermeasure options.

Table 1. Relevant Design Resources and Guides Referenced in this Guide

Resource Title	Publishing Agency
A Policy on Geometric Design of Highways and Streets Commonly used resource for transportation agencies outlining current research and design practices for roadway and geometric design.	AASHTO
Guide for the Development of Bicycle Facilities Builds on other AASHTO guidance to provide specific recommendations and current practice for designing streets and intersections for bicyclists.	AASHTO
Guide for the Planning, Design, and Operation of Pedestrian Facilities Provides current research and recommendations for pedestrian facilities and other pedestrian considerations in roadway and geometric design.	AASHTO
Manual on Uniform Traffic Control Devices (MUTCD) Guidelines and requirements for traffic control devices to standardize and regulate their use across the United States.	FHWA
Separated Bike Lane Planning and Design Guide Detailed planning and design recommendations for separated bike lanes (also known as cycle tracks) to supplement other established guidance for designing bikeways.	FHWA
Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE) Interactive database of countermeasures intended to improve pedestrian safety with tools assisting in countermeasure selection and problem identification	FHWA
Bicycle Safety Guide and Countermeasure Selection System (BIKESAFE) Interactive tools for bicycle safety countermeasures and features to help agencies select appropriate countermeasures.	FHWA
Traffic Control Devices Handbook A companion to the MUTCD that is intended to help agencies interpret and translate MUTCD requirements into practice.	ITE
Urban Street Design Guide Innovative design resources and recommendations for urban contexts that focus on appropriate design to support bicycling, walking, and transit.	NACTO
Recommended Design Guidelines to Accommodate Pedestrians and Bicycles at Interchanges Design recommendations and research on strategies to support bicycle and pedestrian travel at interchange locations.	ITE
Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations Research and guidance to help agencies select countermeasures and treatments for improving pedestrian safety at uncontrolled crossing locations, based on a range of factors.	FHWA
Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts Guidance to help agencies understand the flexibility inherent in AASHTO and MUTCD design documents to implement countermeasures and treatments to improve pedestrian and bicyclist safety at intersections.	FHWA
Bikeway Selection Guide Guidance to help transportation practitioners consider and make informed decisions about trade-offs when selecting among potential bikeway types.	FHWA

Figure 35. Motorist right turn into bicyclist—same direction.



Source: PBCAT

Table 24. Recommended Countermeasures for Motorist Right Turn into Bicyclist—Same Direction

Effectiveness	Tier 1: Supports Motorist Yielding	Tier 2: Requires Intervention to Induce Motorist Yielding	Tier 3: Separates Modes or Requires Motorists to Stop
High	**Bicycle signal***	**Bicycle signal***	**Bicycle signals***
	Leading bicycle interval*	**Grade-separated crossing**	**Grade-separated crossing**
	Protected intersection	**Leading bicycle interval***	**Leading bicycle interval***
	Protected phases*	**Protected phases***	**Protected phases***
	Raised crossings	**Raised crossing**	**Raised crossings**
	Traffic signal	**Traffic signal**	**Traffic signal**
	Turn prohibition (sign, median)	**Turn prohibition (sign, median)**	**Turn prohibition (sign, median)**
Moderate	Bike boxes*	Bike boxes*	Bike boxes*
	Curb extensions	Curb extensions	Curb extensions
	Curb radius reduction	Curb radius reduction	Curb radius reduction
	Lighting	Lighting	Lighting
	Mixing zone treatments	Mixing zone treatments	No turn on red signs*
	No turn on red signs	No turn on red signs*	Protected intersections
	Road diet/rechannelization	Protected intersections	Road diet/rechannelization
		Road diet/rechannelization	

*Countermeasures only appropriate for a signalized location.

Table of Countermeasures

Countermeasure	Applicable to		Appendix Page Number
	Signalized Intersection	Unsignalized Intersection	
Active Warning Beacons		●	117
Advance Stop/Yield Lines		●	119
All-Walk Phase	●		121
Bicycle Lane Extension Through Intersections	●	●	123
Bicycle Signals	●		125
Bike Boxes	●		127
Continuous Raised Medians or Hardened Centerlines	●	●	129
Crossing Barriers	●	●	131
Crossing Islands	●	●	133
Curb Extensions	●	●	135
Curb Radius Reduction	●	●	137
Gateway Treatments (R1-6 Signs)		●	139
Grade-Separated Crossings	●	●	141
High-Visibility Crosswalk Markings	●	●	143
In-Street Pedestrian Crossing Signs		●	145
Leading Bicycle Interval	●		147
Leading Pedestrian Interval	●		149
Lighting	●	●	151
Mini-Traffic Circles		●	153
Mixing Zone Treatments	●		155
No Turn on Red Signs	●		157
Parking Restrictions at Crossing Locations/Daylighting	●	●	159
Passive Bicycle Signal Detection	●		161
Pedestrian Countdown Signals	●		163
Pedestrian Hybrid Beacon		●	165
Protected Intersections	●	●	167
Protected Phases	●		169
Raised Crossings	●	●	171
Rectangular Rapid Flash Beacon		●	173
Road Diet/Rechannelization	●	●	175
Roundabout	●	●	177
Signal Timing	●		179
Traffic Signals	●	●	181
Two-Stage Bicycle Turn Queue Boxes	●		183

Crossing Islands

CMF/Rating

0.54
for all crashes (Bahar et al. 2007)

0.69
for vehicle–pedestrian crashes for raised medians (Zegeer et al. 2017)

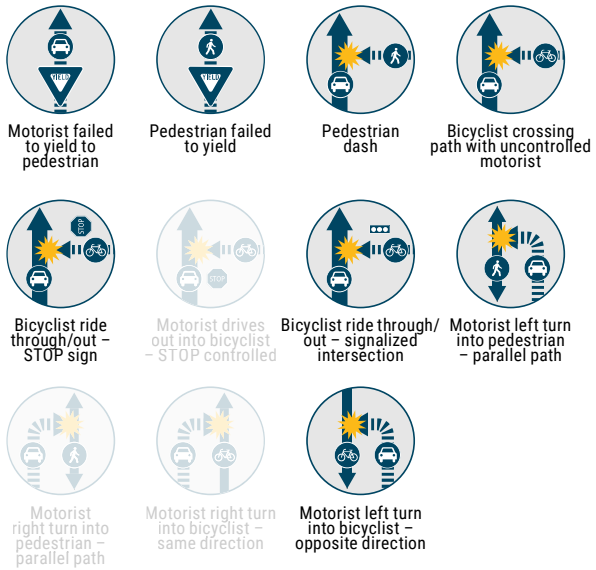
A crossing island is recognized by FHWA as a Proven Safety Countermeasure.

Crossing islands are roadway treatments designed to provide refuge for pedestrians and bicyclists between motor vehicle travel lanes at intersections and midblock locations. To provide pedestrian refuge, they must be a minimum width of 6 feet to meet pedestrian accessibility requirements. To provide bicyclists refuge and to accommodate larger groups of pedestrians, the minimum should be increased to 8 feet. They are also referred to as medians, raised medians, divisional islands, or channelizing islands (between through lanes and turning lanes).

They can simplify and improve safety for pedestrians and bicyclists by reducing crossing distances and creating a place of refuge to allow multiple-stage crossings. They are particularly beneficial at uncontrolled crossings, large signalized crossings, or complex intersections where people may have difficulty completing crossings, and they may be especially helpful for pedestrians who are unable to judge gaps in traffic accurately or who travel slower than the design pedestrian (typically walking at least 3.5 feet per second). Crossing islands can be designed with a Z-crossing to require people to face oncoming traffic which may increase visibility and eye contact. Crossing islands that extend up to or beyond crosswalks can also slow left-turning motorists, providing the same benefit as hardened centerlines or medians.

Figure 9. Midblock crossing island as part of a continuous median (left) or as a stand-alone feature for an intersection (right) (image source: Toole Design Group).

Applicable Crash Types



Applicable Contexts

- Midblock or intersection crossing locations.
- Preferable on all roads with two or more lanes of through traffic in each direction and operating speeds over 30 mph.
- Preferable at uncontrolled crossings where traffic gaps are insufficient (60 to 120 safe gaps per hour is preferable).
- Should be considered on all roadways where space is available to provide refuge and particularly on roads with medium-to-high speeds and medium-to-high vehicle volumes.

Complementary Countermeasures

Should be installed with the following treatments:

- High-visibility crosswalk markings.
- Warning sign (MUTCD W11-1, W11-2, W11-15, or S1-1).

- Curb ramps (if no other accommodation provided).
- Advance stop/yield lines on multilane approaches.
- Stop Here for Pedestrians or Yield Here to Pedestrians signs (MUTCD R1-5 series) on multilane approaches.

May be installed with the following treatments:

- Curb extensions.
- Rectangular rapid flash beacons.
- In-street pedestrian crossing signs.
- Traffic signals.
- Raised crossings.
- Channelizing fence or barrier.
- Gateway treatments.
- Active warning beacons.
- Lighting.

Considerations

- Crossing islands greater than 6 or 8 feet in width and wider crossings should be considered where pedestrian or bicycle volumes are higher.
- Landscaping should not obstruct visibility between pedestrians and approaching motorists.
- Crossings must be fully accessible by means of ramps or cut-throughs, with detectable warnings.
- Fences, railings, and curbs can orient pedestrians to face the direction of oncoming traffic.
- This treatment is also applicable at midblock locations. If installing at midblock locations, consider accompanying this treatment with an active warning beacon.
- This treatment may be part of an access management strategy to improve traffic flow and eliminate crashes caused by left-turning motorists; however, this can increase through-vehicle traffic speeds.

Systemic Safety Potential

Desirable for systemic application along corridors with uncontrolled crossings where motorist do not consistently yield, or where operating speeds are over 30 mph and motor vehicle volumes are over 9,000 vehicles/day necessitating a pedestrian refuge. Should be combined with other treatments.

Interim crossing islands can be constructed with flexible delineators or temporary curbing.

Estimated Cost

The cost for a crossing island varies, but is likely between $2,000 and $40,000.

Potential Effects on Travel Modes

Mode	Effect
Motorists	• Can improve motorist safety where crossing island replaces continuous two-way center turn lanes or at locations where it restricts left turns • Access restrictions may divert traffic to inappropriate routes or increase U-turns
Bicyclists	• May increase safety
Pedestrians	• May increase safety (Zegeer et al. 2017)
Large Trucks	• Required turning radius may impact ability of island to protect crossings

Alternative Treatments

- Continuous raised medians and hardened centerlines—a good alternative for multilane roads.

Additional Information

- Chapter 8 of *Designing Sidewalks and Trails for Access: Part II of II: Best Practices Design Guide*
- American Disabilities Act Accessibility Guidelines for Buildings and Facilities
- FHWA *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*

High-Visibility Crosswalk Markings

CMF/Rating

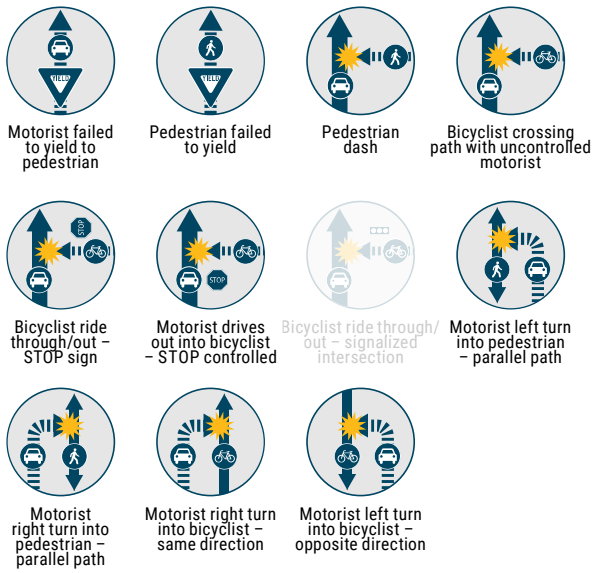
0.52

for vehicle–pedestrian crashes (Chen et al. 2012).

High-visibility crosswalk markings, such as continental or ladder-style, are preferred over parallel line markings to improve visibility to approaching motorists. High-visibility crosswalk markings reinforce legal crosswalks at intersections and create legal crossings at nonintersection locations. These crosswalk markings warn motorists to expect pedestrian crossings and clarify that motorists are expected to yield right-of-way to crossing pedestrians. At uncontrolled locations, high-visibility crosswalk markings identify a preferred crossing location for pedestrians.

Figure 14. High-visibility crosswalk markings (image source: Toole Design Group).

Applicable Crash Types



Applicable Contexts

- All controlled intersections.
- Uncontrolled locations that meet the requirements listed in MUTCD Section 3B.18 (2012).

Complementary Countermeasures

Should be installed with the following treatments:

- Warning sign (MUTCD W11-1, W11-2, W11-15, or S1-1).
- Curb ramps.

May be installed with the following treatments:

- All other countermeasures.

Considerations

- Crossings with motor vehicle speeds above 30 mph, more than one lane in one direction, or an AADT above 9,000 should supplement high-visibility crosswalk markings with additional treatments (Zegeer et al. 2017).
- High-visibility crosswalk marking locations should be convenient for pedestrian access.
- High-visibility crosswalk markings must be placed to include the ramp so that a wheelchair user does not have to leave the crosswalk to access the ramp.
- At intersections, mark all four legs where possible to reduce crossing exposure for pedestrians.
- High-visibility crosswalk markings at nonintersection locations should be supplemented with warning signs (see MUTCD Section 2C.50) and other design features to ensure adequate visibility, and induce motorists yielding.

Systemic Safety Potential

Potential as a systemic safety improvement at all controlled crossings and designated uncontrolled crossings.

Estimated Cost

The cost for high-visibility crosswalk varies, depending on the type of markings used, material, and width of the crossing. The average cost of a high-visibility crosswalk is $2,540, but may be up to $5,000 each (Bushell et al. 2013).

Potential Effects on Travel Modes

Mode	Effect
Motorists	• Reduces crashes with pedestrians and other vehicles (Chen et al. 2012)
Bicyclists	• Reduces crashes with pedestrians (Chen et al. 2012)
Pedestrians	• Reduces crashes with vehicles (Chen et al. 2012)
Large Trucks	• May improve safety

Alternative Treatments

- Transverse crosswalk (two parallel white lines)—appropriate only at stop-controlled or signalized intersections; not appropriate for uncontrolled locations without supplemental treatments.

Additional Information

- *Manual on Uniform Traffic Control Devices*
- FHWA *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*

Pedestrian Hybrid Beacon

CMF/Rating

0.70
for total crashes (Fitzpatrick et al. 2010).

0.31-0.45
for vehicle–pedestrian crashes (Zegeer et al. 2017).

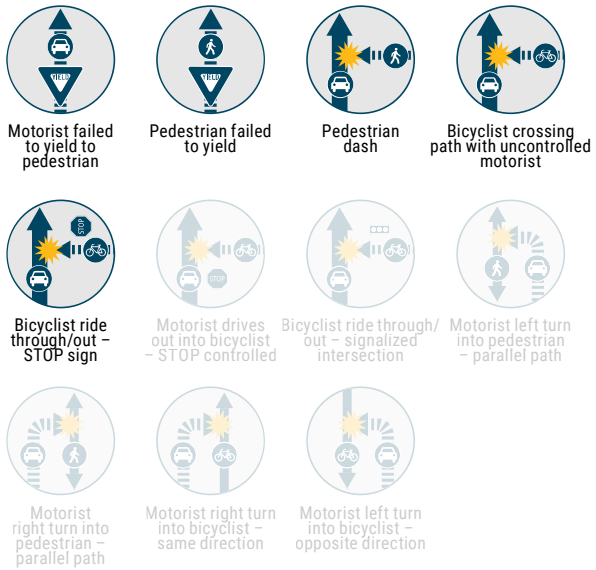
A pedestrian hybrid beacon is recognized by FHWA as a Proven Safety Countermeasure.

Pedestrian Hybrid Beacons (PHBs), also called HAWKs, are signals installed at unsignalized major street crossing locations to help pedestrians cross the street safely. PHBs may be used in locations where side-street volumes do not warrant a conventional traffic signal, or in situations where there are concerns that a conventional signal may encourage additional motor vehicle traffic on the minor street. PHBs may be effective at reducing multiple threat crashes. PHBs typically include the following elements:

- Overhead beacons with three sections (circular yellow signal indication centered below two horizontally aligned circular red signals) facing both directions on the major street.
- Overhead signs labeled "CROSSWALK STOP ON RED" to indicate that the location is associated with a pedestrian crosswalk.
- A marked crosswalk on the major street.
- Countdown pedestrian signal heads to control pedestrian crossings at the crosswalk.

Figure 25. Pedestrian hybrid beacons (left image source: NACTO; right image source: Mike Cynecki).

Applicable Crash Types



Applicable Contexts

- Urban or suburban multilane roadways.
- Higher speed roads (particularly at or above 35 mph).
- Locations with high volumes of pedestrians and vehicles (AADT > 9,000); if higher volumes, 30 mph locations may be appropriate (Blackburn et al. 2017).

Special Circumstances

- Uncontrolled locations with safety concerns or high frequency of pedestrian crashes.
- Long pedestrian delay due to few available gaps in traffic.
- Near schools, parks, and senior centers.

Complementary Countermeasures

Should be installed with the following treatments:

- High-visibility crosswalk markings.
- Crosswalk Stop on Red sign (MUTCD R10-23).
- Advance stop/yield lines on multilane approaches.
- Curb ramps.
- Pedestrian push button.
- Pedestrian countdown signals.

May be installed with the following treatments:

- Curb extensions.
- Pedestrian warning sign (MUTCD W11-2).
- Raised median refuge islands.
- Stop Here for Pedestrians or Yield Here to Pedestrians signs (MUTCD R1-5 series).
- Lighting.

Considerations

- PHBs may be appropriate where traffic signals are unwarranted.
- PHBs may be used at corners and midblock locations.
- The preferred design is to place the beacon over the crosswalk, rather than on the side of the road.
- PHBs should be placed outside of the functional area of signalized intersections and outside of turn lanes.
- Some cities use PHBs along heavily used bicycle routes to help bicyclists cross major streets.

Systemic Safety Potential

Potential as systemic safety improvement along midblock and uncontrolled crossings on multilane roadways with moderate- to high-traffic volumes, speed limits at or greater than 30 mph, and longer intervals between crossings (Blackburn et al. 2017).

Estimated Cost

The average cost of a PHB is approximately $60,000, but prices may range from $75,000 to over $150,000 (Buschell et al. 2013).

Potential Effects on Travel Modes

Mode	Effect
Motorists	• May reduce crashes involving all users (Fitzpatrick et al. 2010) • Occasional minor delay • May increase rear-end crashes
Bicyclists	• May improve safety if bicyclists are directed to use the PHB • May reduce delay
Pedestrians	• May improve safety (Zegeer et al. 2017) • May reduce delay
Large Trucks	• May reduce crashes involving all users • Occasional minor delay

Alternative Treatments

- Active warning beacons—appropriate on low-speed and/or low-vehicle-volume roads.

Additional Information

- *NCHRP Report 562 & TCRP Report 112: Improving Pedestrian Safety at Unsignalized Crossings*
- *Pedestrian Hybrid Beacon Guide—Recommendations and Case Study*
- *Safety Effectiveness of the HAWK Pedestrian Crossing Treatment*
- FHWA *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*