

Project Summary

Program: 2020 City Safety Program

Date: November 2020

Agency: City of Port Angeles

Contact: Jonathan Boehme, P.E., City Engineer, (360) 417-4803, jboehme@cityofpa.us

Project Title: Signal Controller Upgrades

Project Number: To be assigned.

Project Description: Upgrade signal control equipment (controllers and cabinets) to implement lead pedestrian interval (LPI), blank-out no turn on red signs, corridor-level signal coordination and detection to address crashes and corridor flow and efficiency, and signal preemption.

Detailed Project Description: The following work includes associated ADA and utility work, pavement marking removal, and sign/post removal, relocation, or replacement as needed.

Upgrade signal control equipment (controllers and cabinets) to allow the City to implement several operational safety upgrades, including lead pedestrian interval (LPI), blank-out no turn on red signs where warranted, corridor-level signal coordination and detection to address crashes and corridor flow and efficiency, and signal preemption to increase emergency vehicle response time and multimodal safety at signals when emergency vehicles approach; Pedestrian countdown signal heads and audible pedestrian signal pushbuttons required for implementation of LPI may require installation of secondary poles or extensions to place the pushbutton in compliance with ADA requirements; Improvements will be made at the following intersections:

1. W 1st St and Oak St
2. W 1st St and Laurel St
3. E 1st St and Lincoln St
4. E 1st St and Peabody St
5. E 1st St and Race St
6. E 1st St and Ennis St
7. E 1st St and Golf Course Road
8. W Front St and Oak St
9. W Front St and Laurel St
10. E Front St and Lincoln St
11. E Front St and Race St
12. E Front St and Ennis St
13. Hwy101 and Del Guzzi Dr

Project Schedule (Estimated):

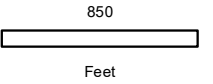
Project added to the Statewide Transportation Improvement Program (STIP)	01/21
Project agreement signed with WSDOT Local Programs	05/21
Begin PE (PE phase authorized by FHWA through WSDOT Local Programs)	12/21
Community/stakeholder engagement complete	05/22
Environmental documents (required for every project) approved by WSDOT Local Programs	12/22
Right-of-way completed (certification by FHWA through WSDOT Local Programs)	12/22
Contract advertised	04/23
Contract awarded	06/23
Construction complete	09/23

Project Cost and Award Amount:

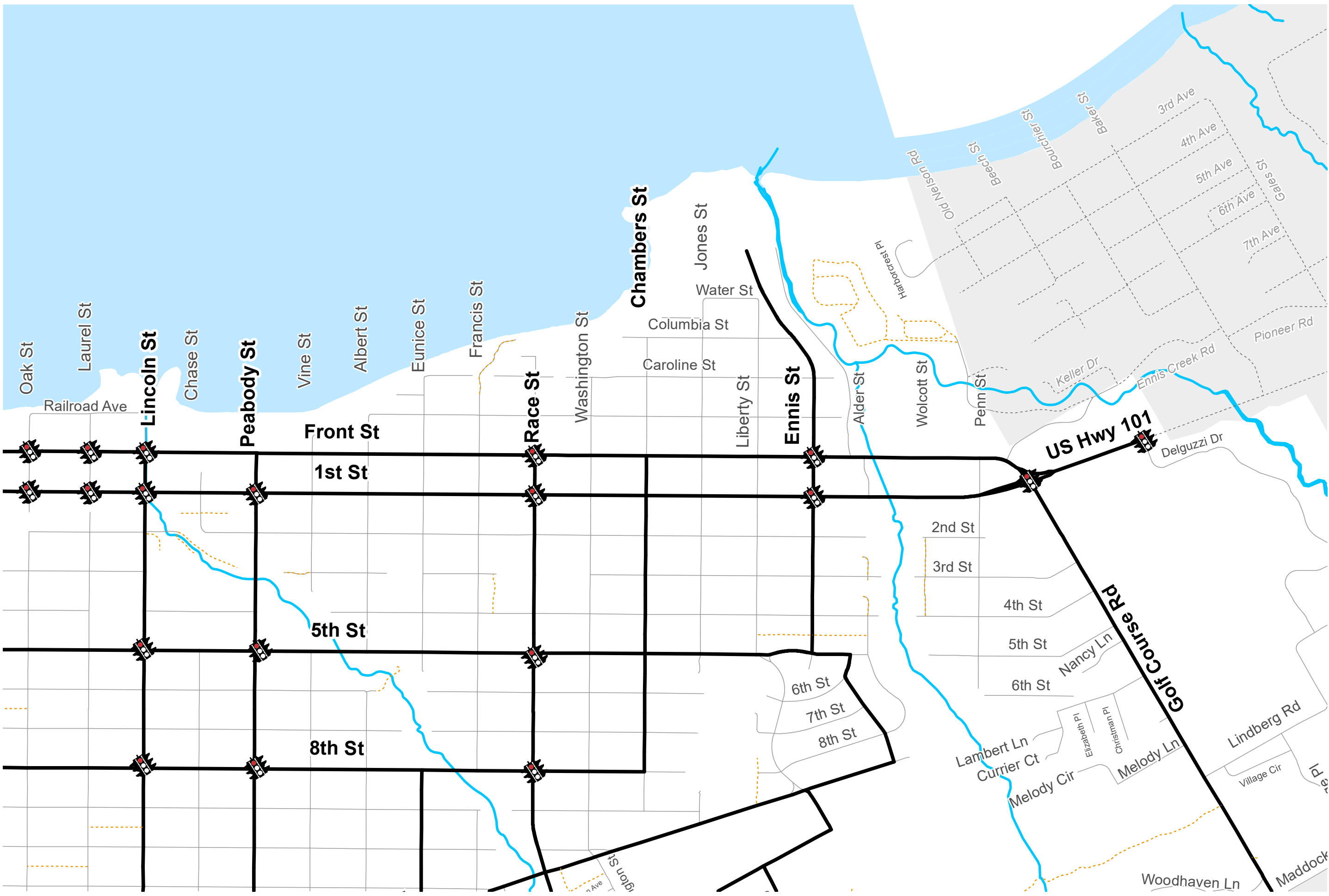
Phase	Total cost	Local Match	Amount awarded
Preliminary Engineering	\$215,000	\$21,500	\$193,500
Right-of-Way	\$10,000	\$1,000	\$9,000
Construction	\$1,360,000	\$0	\$1,360,000
Total	\$1,585,000	\$22,500	\$1,562,500



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91
Plot date: Oct 2021



Signal Improvement Site Map



Legend

- ElecMiscDevices MSC
- Gravel/Dirt streets
- City arterial
- City side street
- County road
- River and creek
- Harbor
- County jurisdiction

*This map is not intended to be used as a legal description.
This map/drawing is produced by the City of Port Angeles for its own use and purposes.
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S:/ArcInfo/Street/Signals.mxd*

Project 02

Signal Controller Upgrades

Project on WSDOT Facilities



Project 02 includes the upgrading of traffic signal control equipment at intersections on the US 101 corridor along 1st Street and Front Street. With the upgraded signal control equipment, several safety improvements to address risk factors could be implemented at signalized intersections. Improvements made possible by signal control upgrades include:

- **Lead pedestrian interval (LPI)** – A 5 to 7 second delay between the walk signal and the green light for traffic would address pedestrian visibility on left turns across marked crosswalks. LPI is a signal operation improvement requiring updated controllers on the US 101 corridor.
- **Blank-out no turn on red** – Electronic no turn on red signs can be coordinated to restrict right turns on red based on time of day or when pedestrian calls occur. Dynamic restriction of no turn on red allows the City to address risk factors related to the disregard for red signals related to angle crashes, while limiting the impact on traffic operations.
- **Improved detection and corridor timing** through coordination of signals to reduce waiting times and reduce the perceived need to violate red signals or use adjacent non-arterial streets.
- **Implement signal preemption** to improve emergency response times

The signal cabinet and controllers to upgrade are at the intersections of 1st Street and Front Street with:

- Oak Street
- Peabody Street
- Laurel Street
- Ennis Street
- Lincoln Street
- Golf Course Road
- Race Street

The signal control cabinets and controllers would be upgraded at each of the listed intersections. No signal pole upgrades would occur as part of the project. The implementation of LPI would require pedestrian countdown heads for all signalized crossings and replacement of pushbuttons with APS-style buttons. The new pushbuttons may require extensions from existing poles in order to be placed in compliance with ADA requirements. Blank-out no turn on red signs would be installed on existing poles and are unlikely to require replacement of poles due to loading concerns. Emergency preemption can occur using existing poles and signal head equipment.

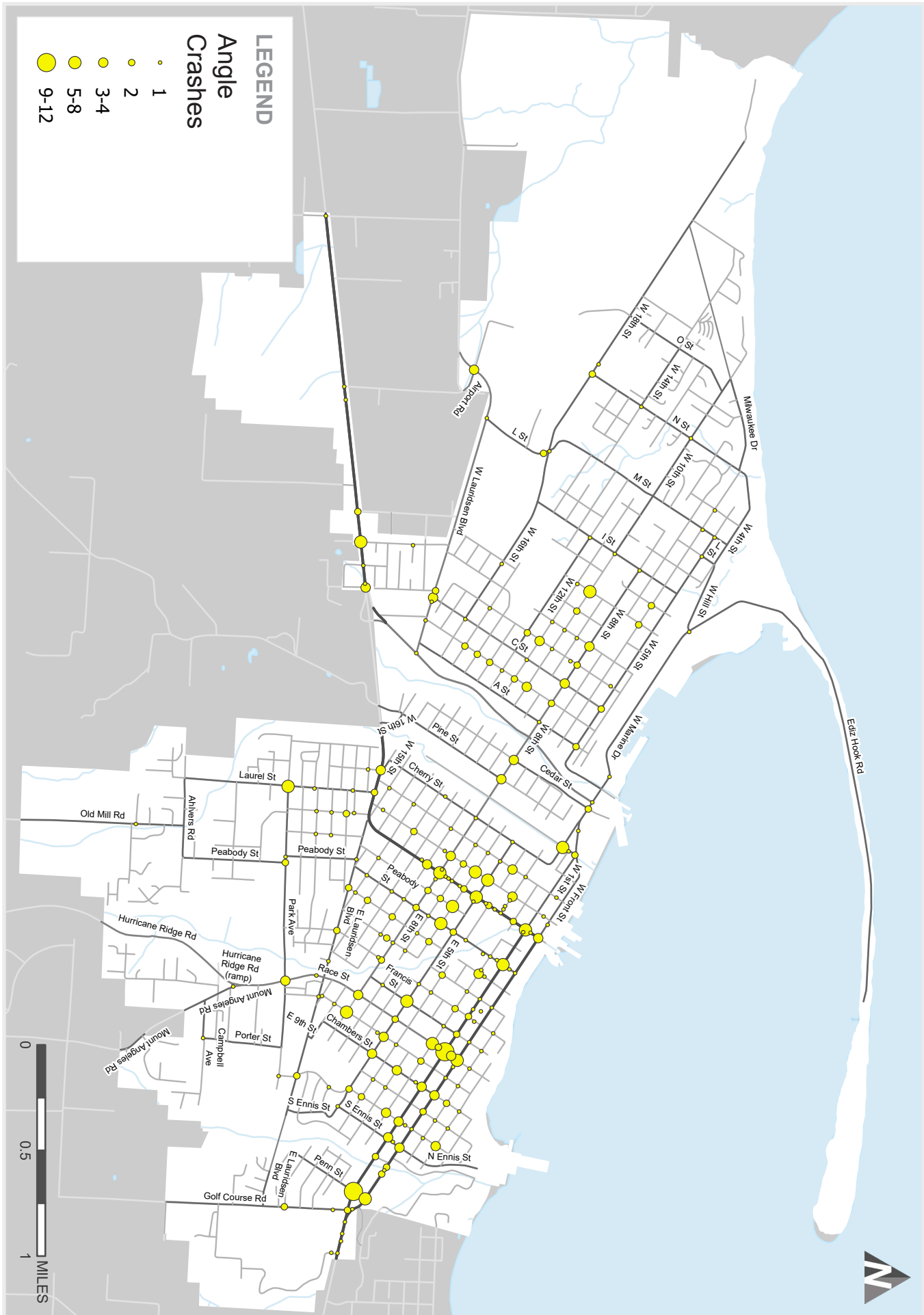
Upgrading of signal controllers and cabinets would require coordination with and approval of WSDOT as it occurs on 1st Street, Lincoln Street and Front Street which are controlled by WSDOT. The project would involve the replacement of the signal cabinets, and pushbuttons at 12 intersections. Two outdated pedestrian signal heads will also be replaced.

A second phase of the signal upgrade project, to further complete the integration of signal safety measures, signal coordination and signal preemption would occur on Lincoln Street at the intersections with 5th Street, 8th Street and Lauridsen Boulevard. Costs and an implementation schedule for a second phase will be determined in a future edition of the LRSP.

Estimated Project Cost

\$950,000*

**Phase 1 only*



Angle Crashes

Port Angeles Local Roads Safety Plan

FIGURE 1