



## ***Main Streets on Highways***



## **Preserving the Function of the Roadway While Respecting Local Vision**

### Presenters

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**7th TRB Conference on Access Management**



***Oregon Transportation Planning  
& Policy Framework for  
Main Street Highways***



## ***Special Transportation Area (STA) urban highway segment designation***

- ODOT's way to recognize certain highway segments as 'Main Streets'



The primary highway management objective is access to community activities, businesses, residences



Safe and convenient pedestrian, bicycle, and transit movement along and across a highway



## ***Key principles for Main Street highways***

- Inter-governmental partnerships
- Land use & transportation integration
- Balancing access & mobility standards





## ***STA highway segment designations***

- Integrates land use, alternative modes, traffic management, & access management
- Use special highway design standards

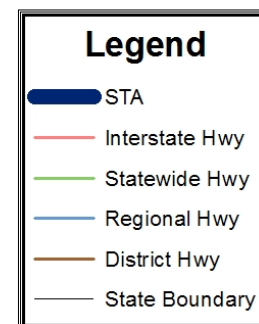
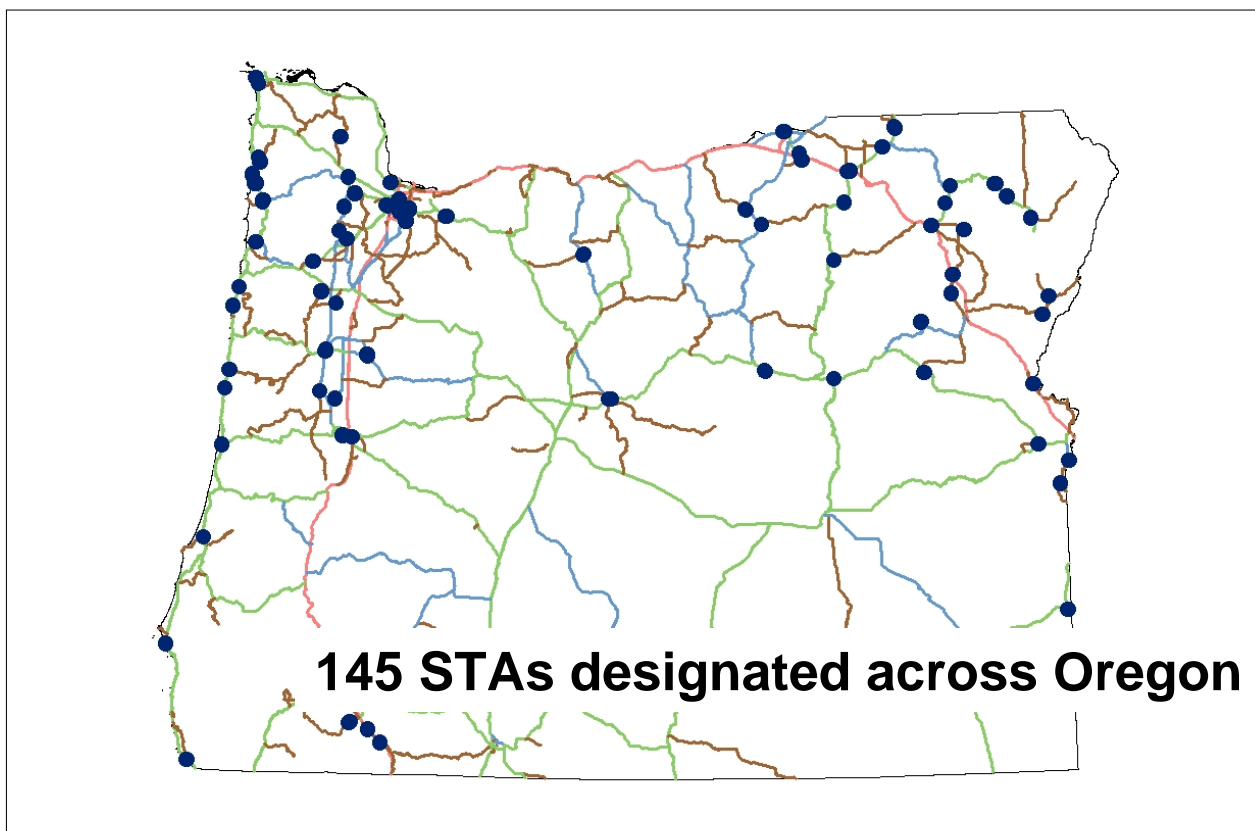


## ***Balancing Access and Mobility***

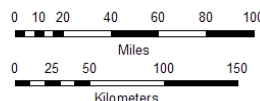
- Special Transportation Area highway designation allows the balance to shift
  - away from motor vehicle access and mobility
  - toward improved access and convenience for alternative modes



## *Urban highway segment designation* ***Special Transportation Area (STA)***



OREGON DEPARTMENT OF TRANSPORTATION  
**Special Transportation Areas**  
145 STAs Designated



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## ***Historic Main Street***



Center of civic & social life

Central business district  
and commercial center

Characteristics:

- Pedestrian friendly
- City block pattern
- Mix of uses
- Buildings close to street
- Wide sidewalks
- On-street parking





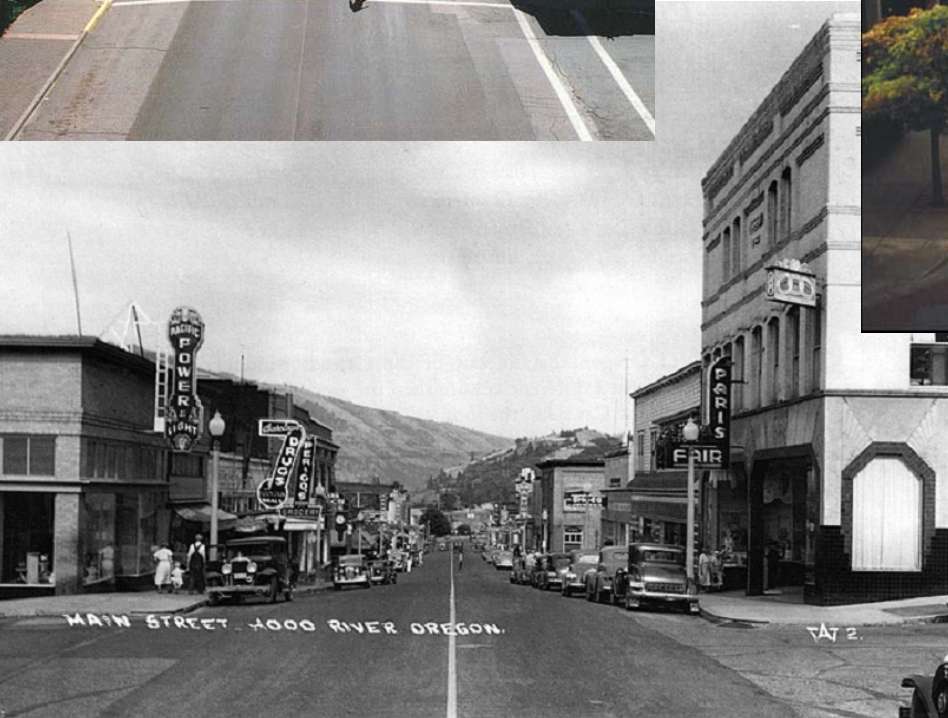
## ***Main Street Today***



- Some Main Streets kept their character
- Others were lost to strip development, parking lots, and expanded highways
- Communities want to revitalize Main Street
- New or expanded Main Streets are the focus of new compact, urban development



*Urban highway segment designation*  
***Special Transportation Area (STA)***



Traditional Main Street





## ***When Main Street is a Highway***

The challenge is to balance community access with the need for through traffic flow







## *Special Transportation Area (STA)* ***Sidewalk and Roadway Design***



**Main Streets have many uses other than transportation**





*Special Transportation Area (STA)*

## ***Design for pedestrian access & comfort***

- Wide sidewalks
- Curb extensions
- Curbs & ramps
- Street trees
- Street furniture
- Patterned crosswalk







## *Special Transportation Area (STA)*

# ***Design for pedestrian access & comfort***

- Narrow travel lanes
- Pedestrian refuges
- Landscaped medians
- Bike lanes
- On-street parking







## *Special Transportation Area (STA)*

# ***Design for pedestrian access & comfort***

- Improve aesthetic appearance of street
- Slow down traffic





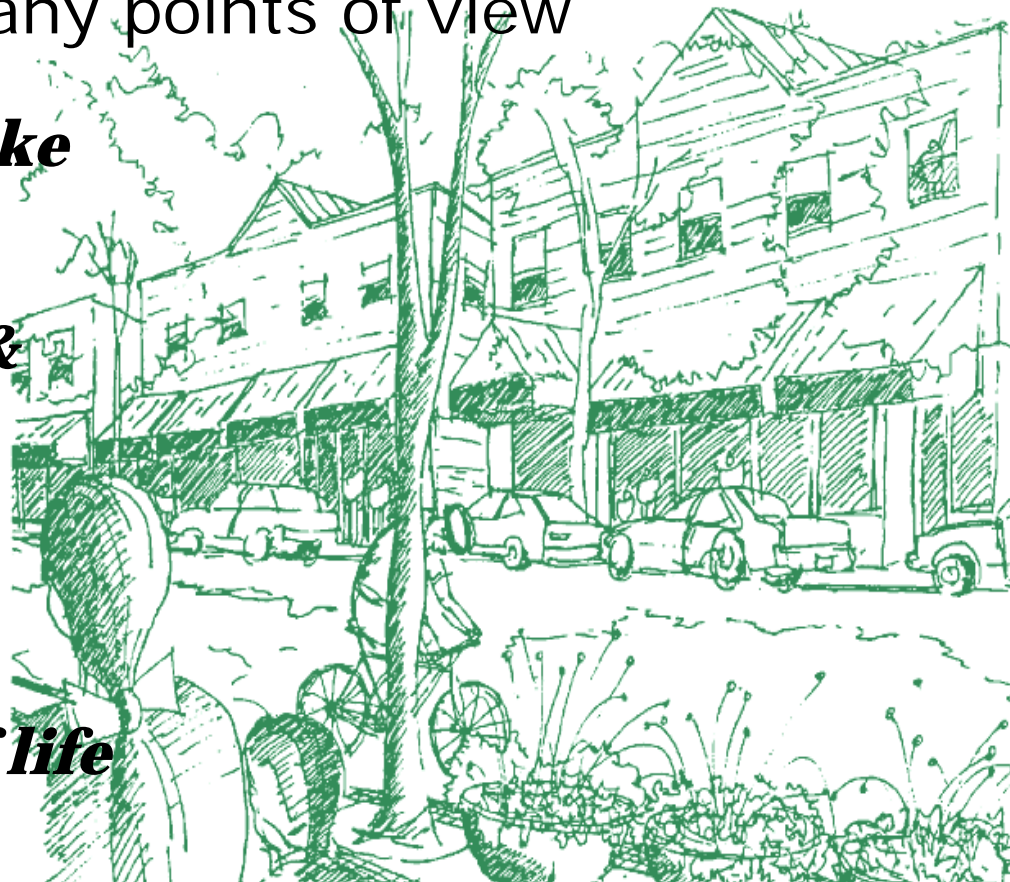


*Special Transportation Area (STA)*

## ***Policy and design framework***

Foster partnerships and collaboration with local communities so that Main Street is attractive and works from many points of view

- ***Pedestrian & bike safety & activity***
- ***Slow, smooth, & safe traffic flow***
- ***Community economic vitality***
- ***High quality of life***







# ***Highway Design Manual***

## ***1993 – 2003***



# ***General Design Philosophy***

1993 HDM	No overarching urban design “philosophy” articulated
	“Through traffic movements and bus routes are deliberately discouraged on local streets.”
2003 HDM	Major chapter on “Urban Highway Design” to implement 1999 OHP
	Overarching philosophy to “... <u>balance</u> needs of autos, trucks, transit, bicyclists, and pedestrians....”
	Urban design chapter focuses on expressways, arterials, and highway segments (STA, CC, UBA)



# ***Urban Highway Classifications***

1993 HDM	Freeway, arterial, collector, local route
2003 HDM	<p>Incorporate new highway classification system and highway segment designations</p> <p>Section on “Non-Designated Urban Highways” cover facilities that are not STA, UBA, or CC.</p>



## ***Mobility/Capacity Standards***

1993 HDM	Design based on existing DHV projected 20 years
	Design based on "ideal" capacity
2003 HDM	<b><u>STA</u> volume/capacity standard</b> 0.85 – 0.95 based on highway classification (0.65 – 0.85 on non-STA urban highways, based on classification)





## ***Access/Road Approaches***

1993 HDM	No adopted spacing standards for driveway or public street connections
2003 HDM	<u>STA</u> Spacing Standards
	Public roads at existing city block spacing
	Private land access discouraged
	Where driveways allowed, minimum spacing for driveways is 175' or mid-block if current city block spacing < 350 feet



## ***Pedestrian Facilities***

1993 HDM	Sidewalks, where appropriate or required
	<i>Consider</i> buffer of planted strip (2' min.)
2003 HDM	"Adequate pedestrian facilities critical to vitality of STA."
	<b>Sidewalks</b> 10' standard with at least 6' clear walking path Consider greater width where right of way is available
	<b>Buffer <i>strongly</i> recommended; 4' min.</b> May consist of on-street parking, tree wells, planter boxes, or other amenities



## ***Traffic Calming***

1993 HDM	Not mentioned
1996 HDM	No change
2003 HDM	<b>Section on Traffic Calming added</b>  <b>Guidelines include use of</b> curb extensions on-street parking trees, landscaping raised medians lighting hanging baskets raised planters



## ***STA Cost Per 500' Block***

PROJECT TYPE	LANES	BASE ROADWAY COST	A	B	C	D	TOTAL
FULL DEPTH RECONSTRUCT W/ CURB, SIDEWALK, BULB OUTS, ETC.	2	305K	70K	80K	110K	90K	\$575K
	4	370K	70K	80K	110K	90K	\$640K

A. Amenities (Street Furn., Plantings, Kiosks, Signs, Etc.) (\$70,000)

B. Curb & Sidewalk, Bulb outs, Medians, Etc. (\$80,000)

C. Decorative Lighting, Lamps, Posts, Etc. (\$110,000)

D. Underground Utilities (\$90,000)



# ***Two STA Project Examples***

- ***Lincoln City (Taft)***
  - ***Milwaukie***



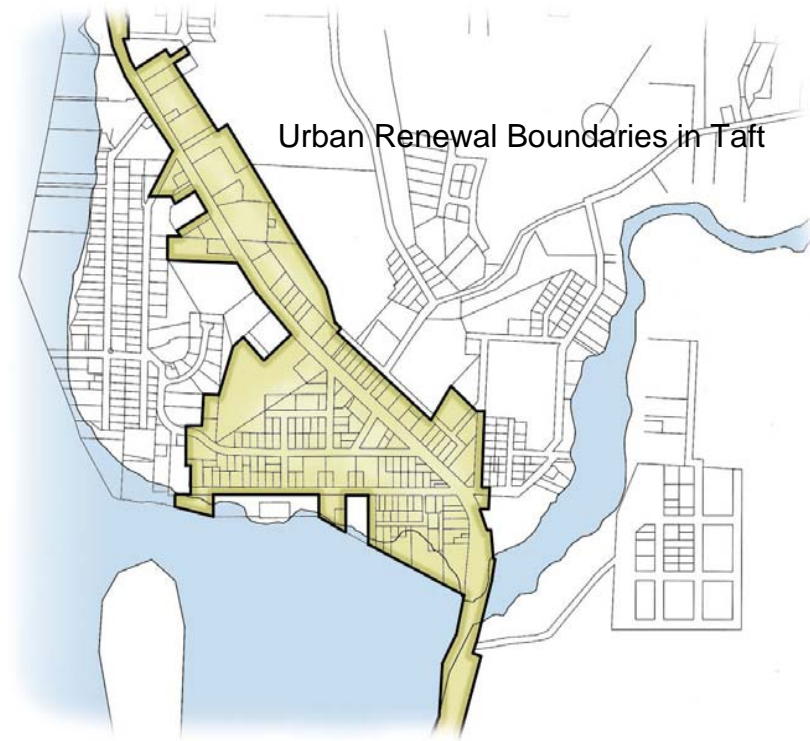
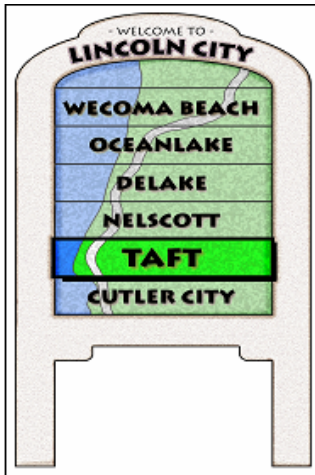
# ***Lincoln City, OR – Taft Village US Highway 101***







## ***Taft Village Background***





## ***Taft Village Historical Main Street***



Then

Now



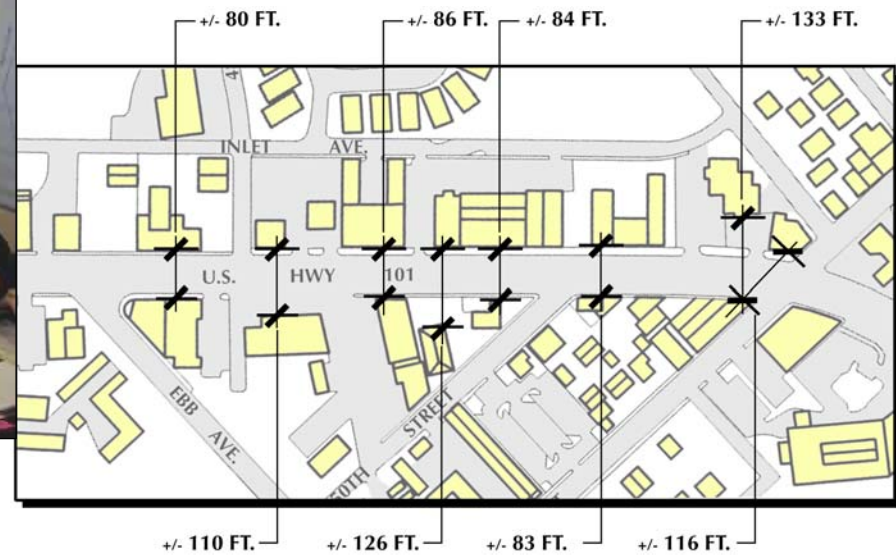
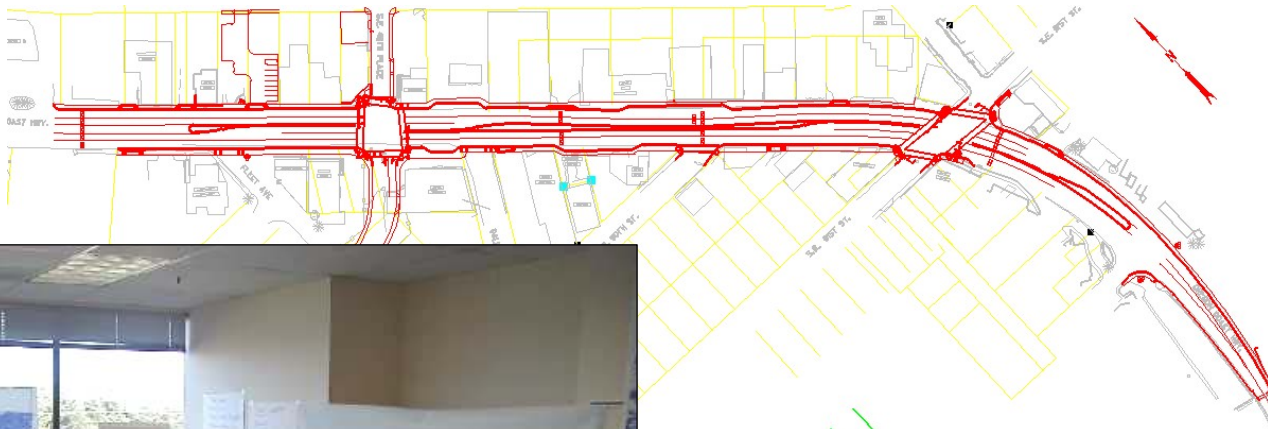


## ***Taft Community Planning & Design Charrett Process***





# ***Taft Community Planning & Design Charrett Process***







## ***Taft Village – STA Designation***





## *Highway 101 before project construction*

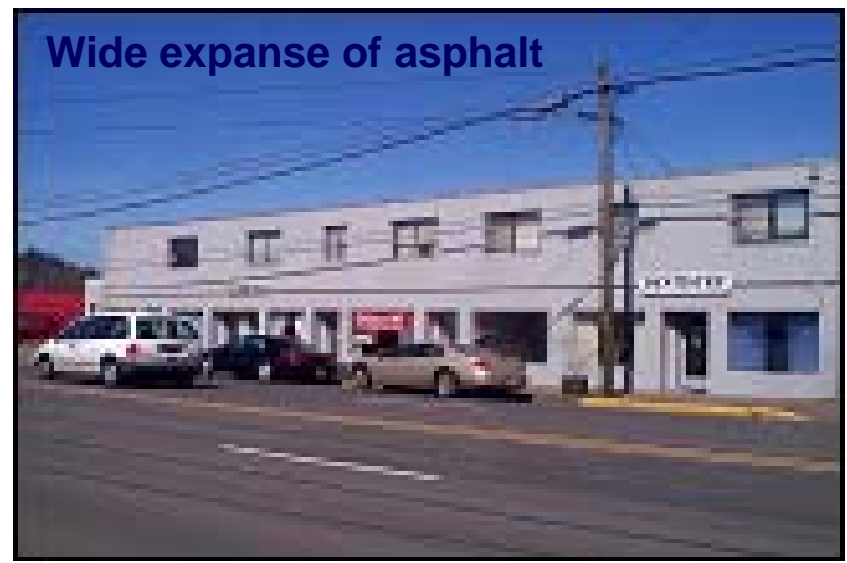


- ◆ Principle urban arterial
- ◆ NHS - Statewide highway
- ◆ 2002 ADT = 16-23K
- ◆ 2015 Design ADT = 28-32K
- ◆ 8% truck traffic
- ◆ Design speed = 25 mph
- ◆ Posted speed = 30 mph
- ◆ Actual speed = 45 mph
- ◆ 80-85 ft R/W
- ◆ 60-ft cross-section
- ◆ 4, 12-ft lanes
- ◆ On-street parking
- ◆ No left turn lanes
- ◆ Discontinuous sidewalks
- ◆ 20 crashes 1996-2000



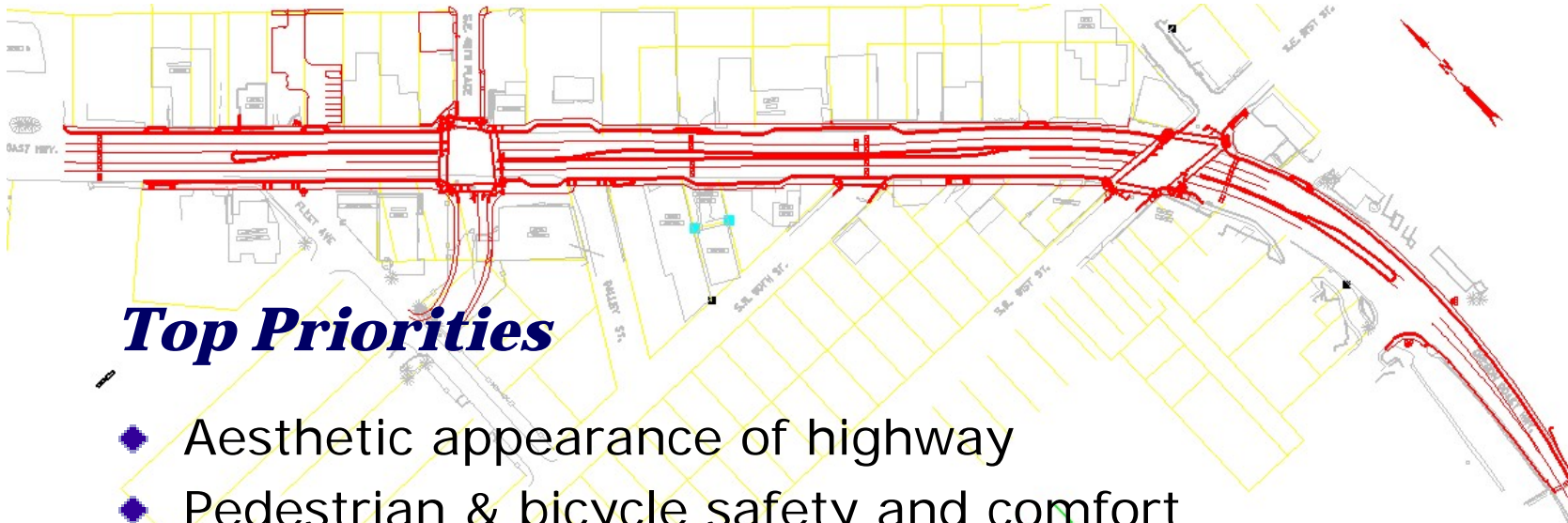


## ***Highway 101 before project construction***





## ***Shared City & ODOT Project Objectives***



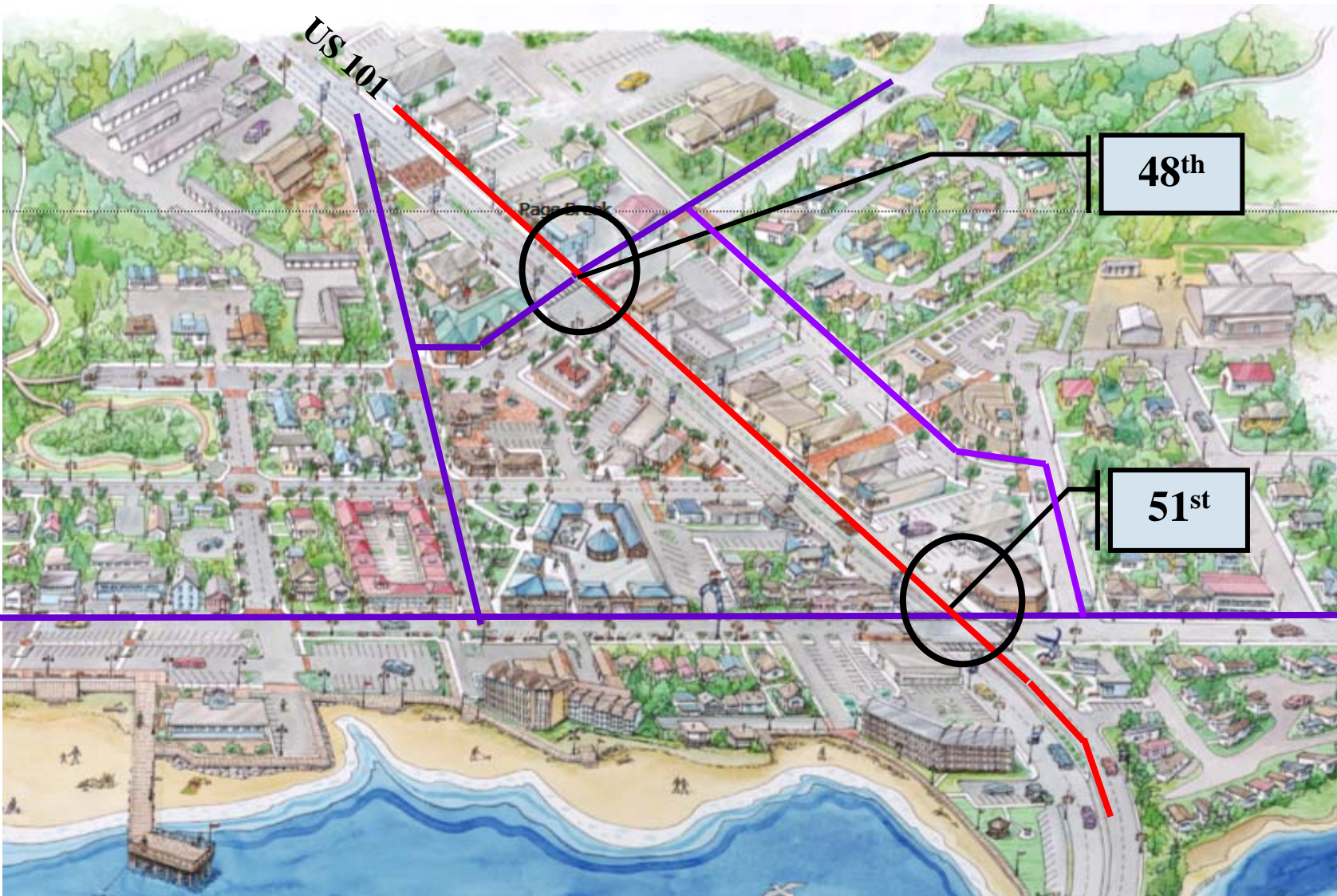
### ***Top Priorities***

- ◆ Aesthetic appearance of highway
- ◆ Pedestrian & bicycle safety and comfort
- ◆ Queues and delays at intersections
- ◆ Access management
- ◆ Traffic signal improvements & synchronization
- ◆ Bottleneck lane configuration and congestion
- ◆ On-street parking along Hwy 101
- ◆ Local street connectivity





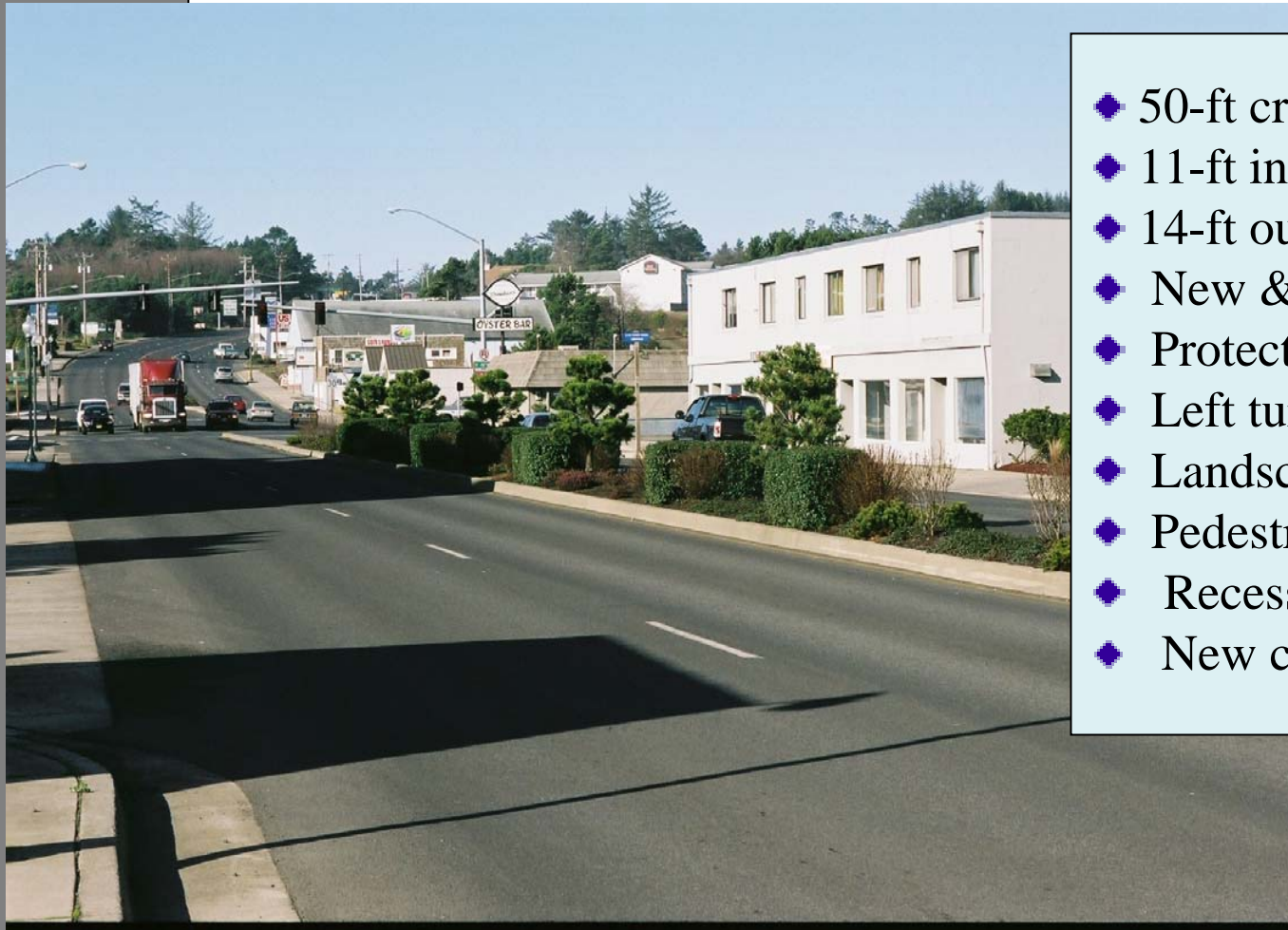
## ***Highway 101 improvements focused between 48<sup>th</sup> and 51<sup>st</sup> in the STA highway segment***







## *Highway 101 after project construction*



- ◆ 50-ft cross section
- ◆ 11-ft inside lanes
- ◆ 14-ft outside shared bike lanes
- ◆ New & upgraded signals
- ◆ Protected left turns
- ◆ Left turn pockets
- ◆ Landscaped medians
- ◆ Pedestrian refuges
- ◆ Recessed on-street parking
- ◆ New curb & sidewalk



## ***Highway 101 Access & Circulation Improvements***

**14-ft outside shared bike lanes  
11-ft inside lanes**



**Landscaped median**



**Curb & sidewalk  
Recessed parking**



**Left turn lane**







## *Highway 101* ***Access & Circulation Improvements***

**Street furniture**



**Curb & sidewalk  
Left turn lane**



**Mid-block pedestrian crossing**

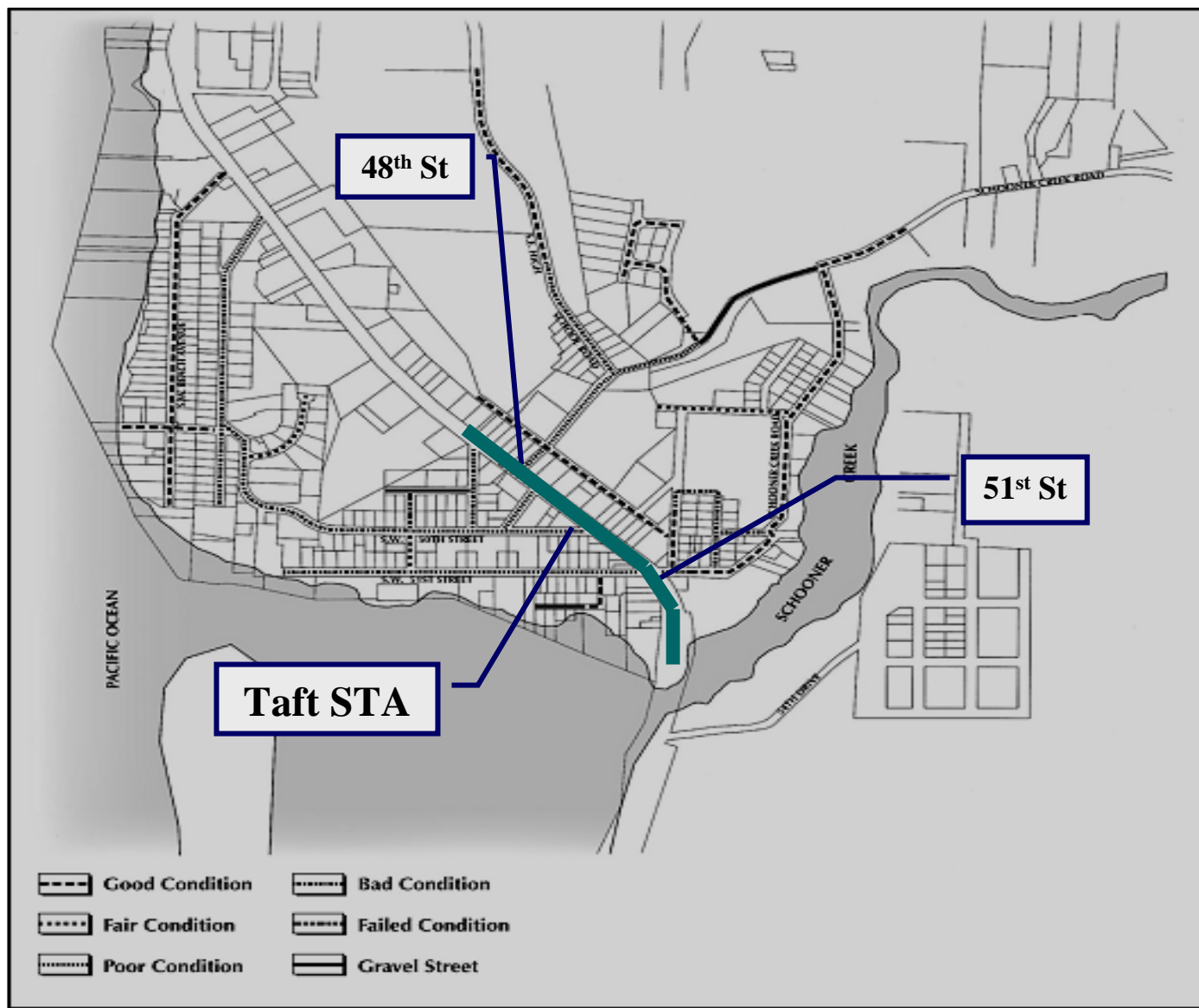


**Recessed on-street parking**





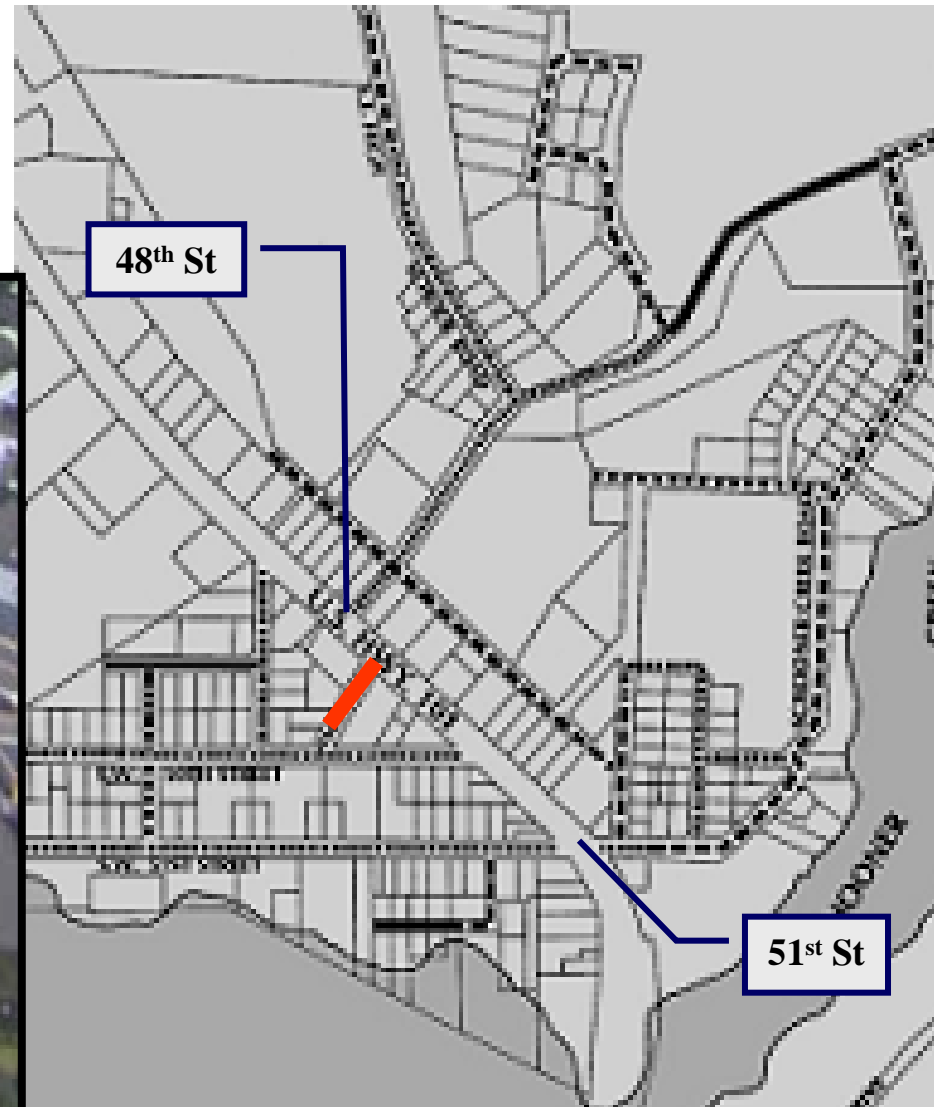
## ***Local Street Network***





## ***Key Access & Circulation Improvements***

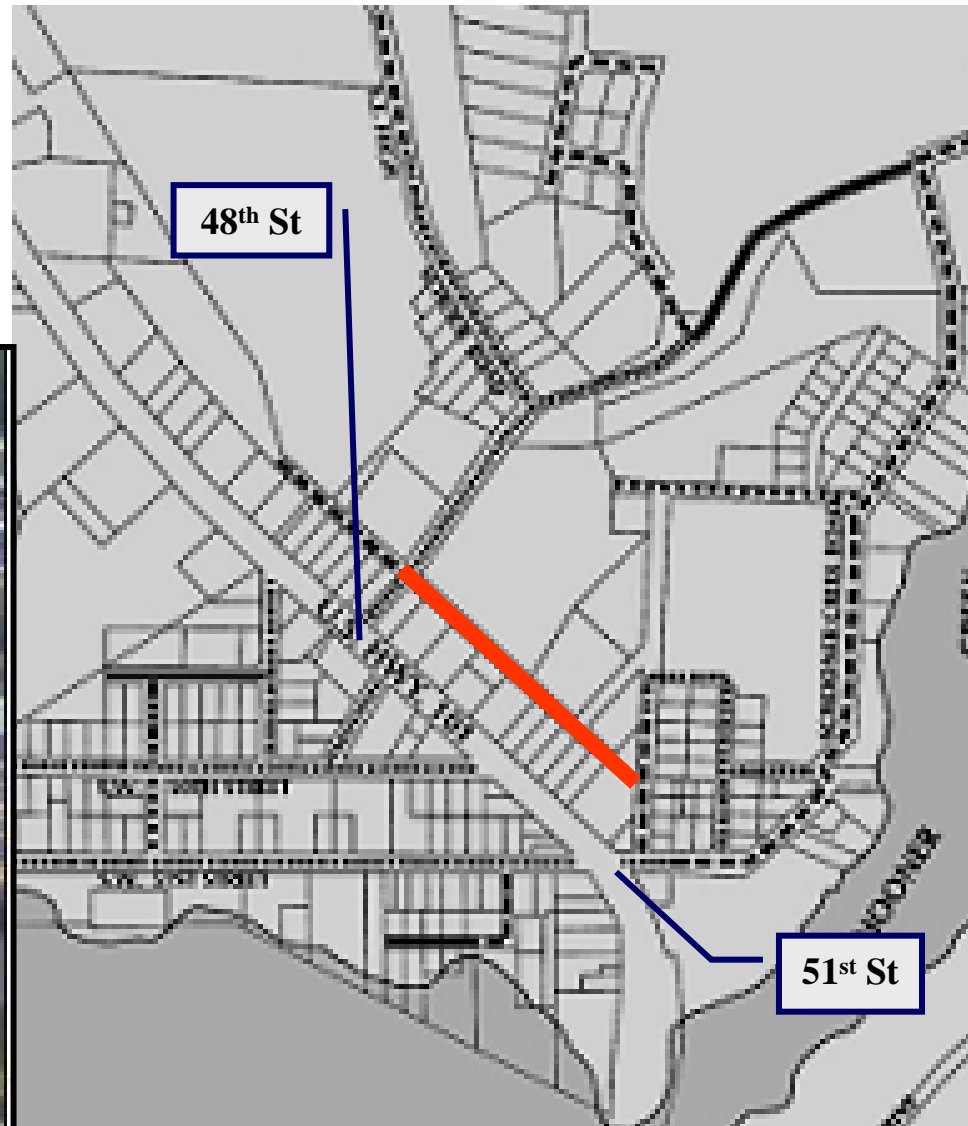
A public street closed on west side of highway & converted to shared, public off-street parking with RIRO highway access.





## ***Key Access & Circulation Improvements***

Inlet Ave improved between 48<sup>th</sup> & 51<sup>st</sup>.  
Businesses reoriented toward Inlet Ave.

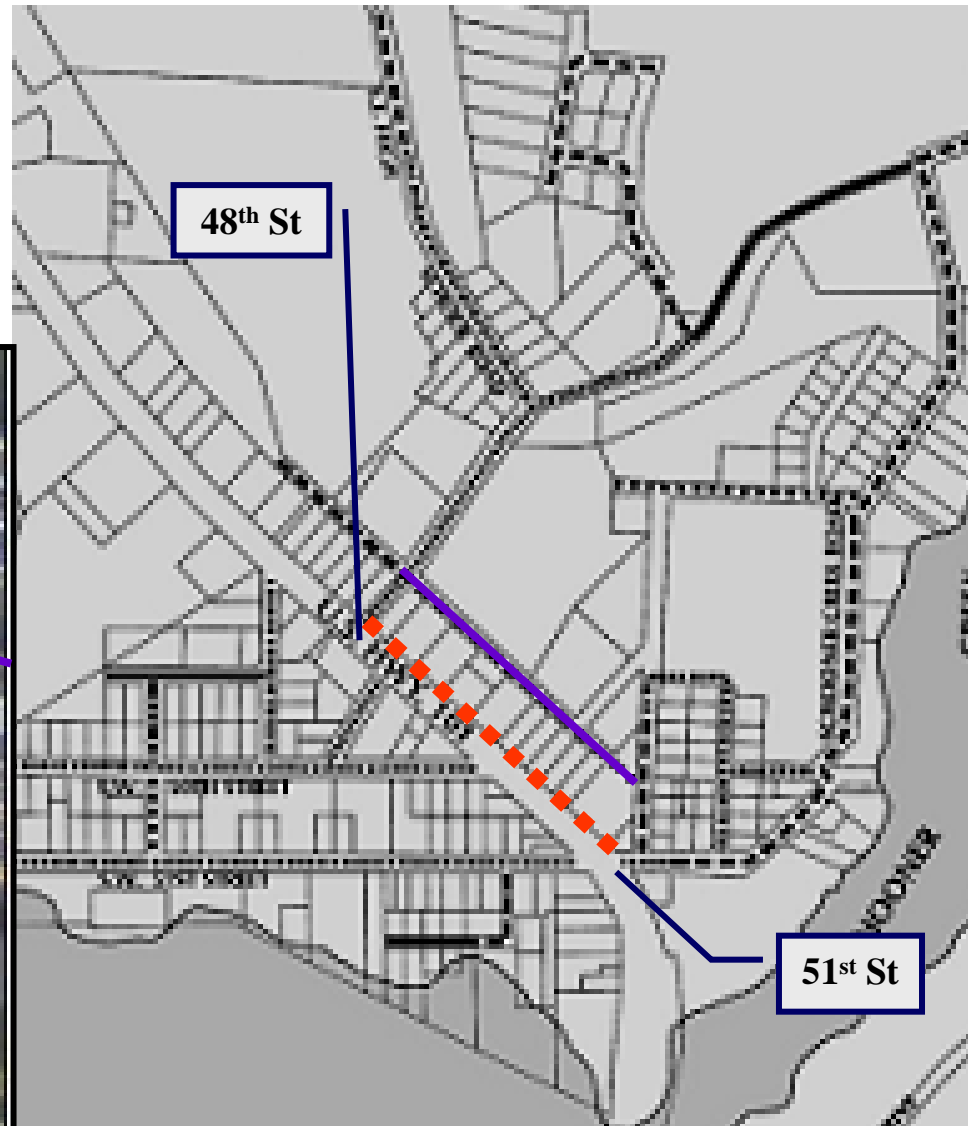






## ***Key Access & Circulation Improvements***

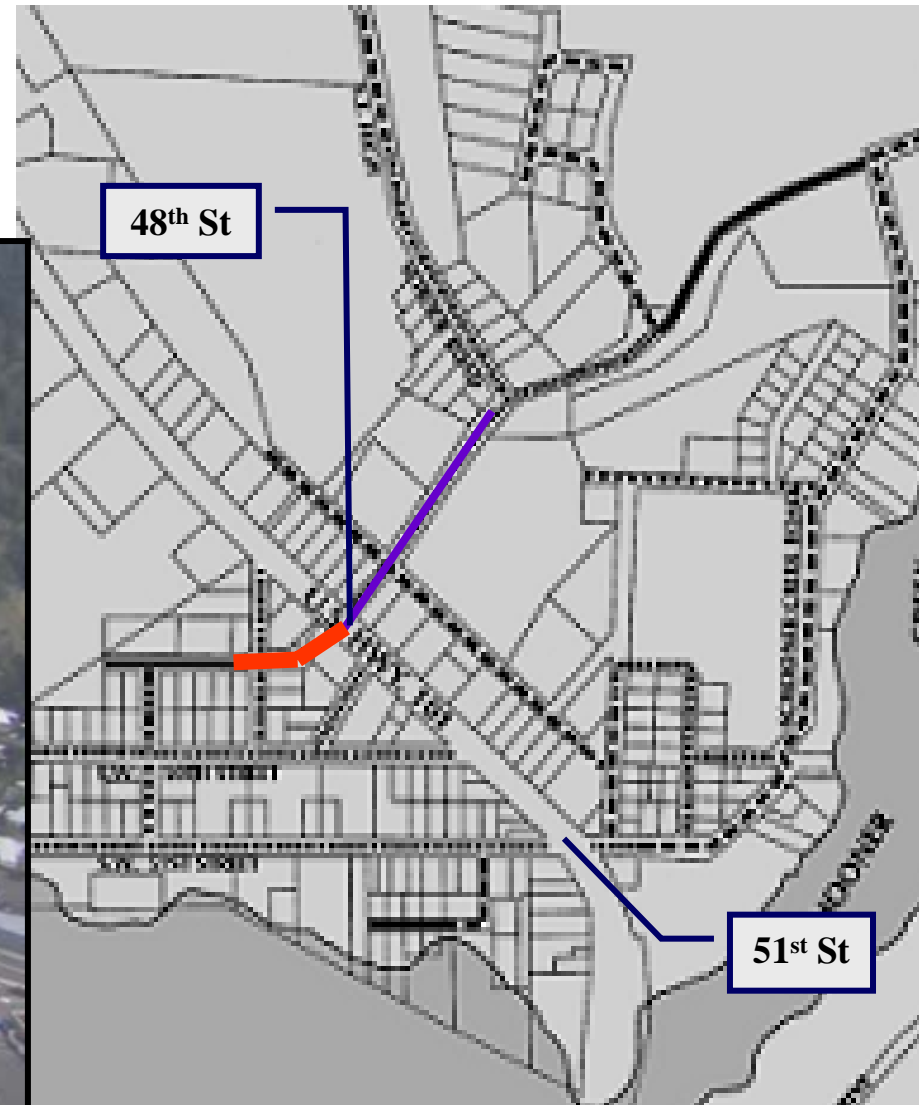
Driveways closed on east side of US 101.  
ODOT purchased access control.





## ***Key Access & Circulation Improvements***

48<sup>th</sup> St extended west to improve local street connections.







## *Off-System Local Street Improvements*







***Lincoln City – Taft Village  
from the air today***





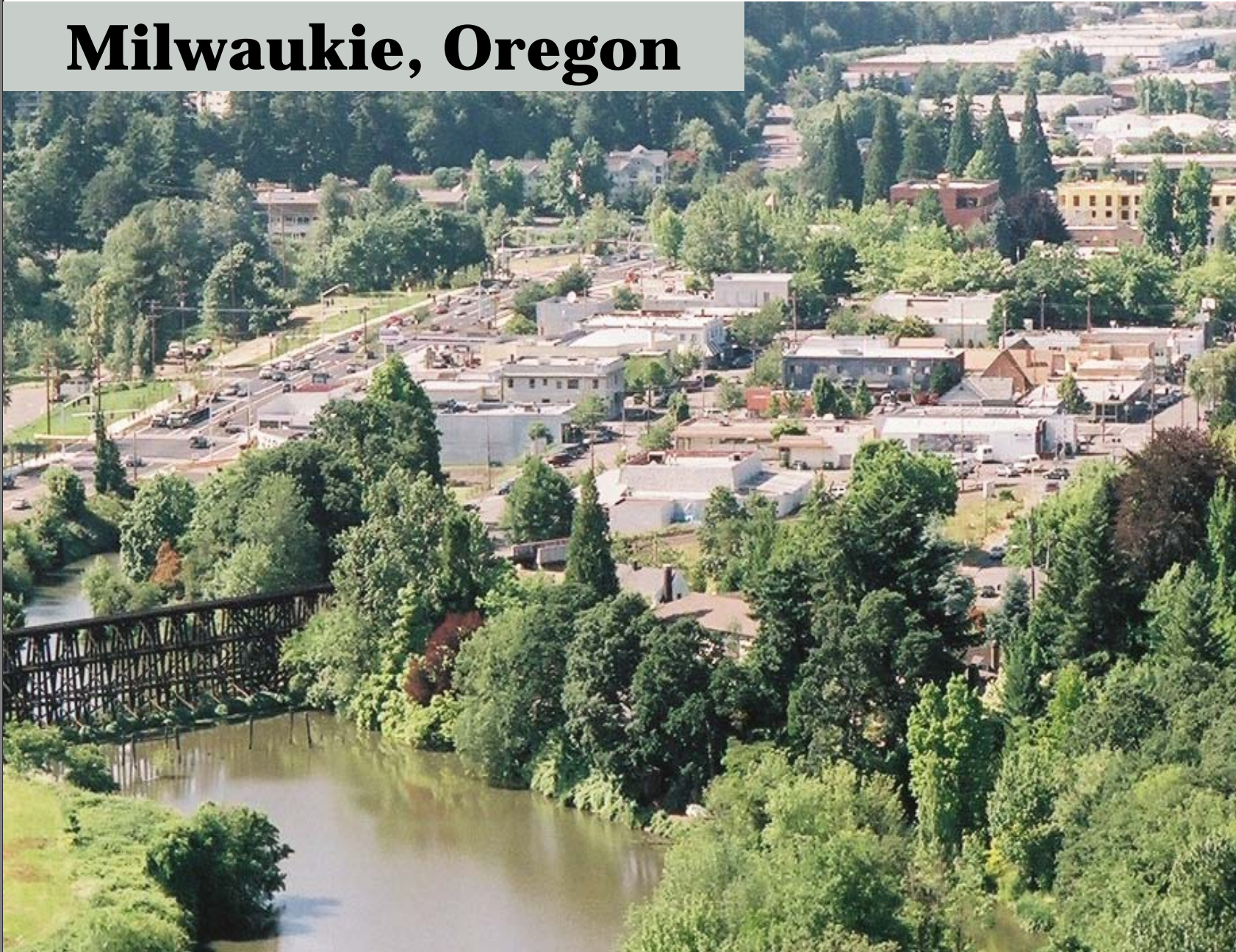


**Oregon Department of Transportation**



# **Milwaukie, Oregon**

**Hwy. 99 East (McLoughlin Blvd)  
Harrison St – Kellogg Creek**





## ***Community Background***

Growing suburb of Portland Metro area

Founded early 1900's

Population 21,000

Bordered by Willamette River

Major employers: United Grocers, Oregon Cutting Systems, Warn Industries, regional hospital

Average annual precipitation is 47"





Main St.

Public  
Parking

Kellogg  
Creek

Hwy 99E  
McLoughlin

SB

NB

Riverfront Park Area

Boat  
Ramp









***Existing = 81.5'***

Side-walk	Parking Lane	Travel Lane	Travel Lane	Median	Travel Lane	Travel Lane	Side-walk
8'	7'	12'	11'	12'	10.5'	11'	10'





MONROE ST

JEFFERSON ST

MCLOUGHLIN BL

Gas station - 2  
drwys. on hwy.

NB

Sidewalk

S

Multi-use  
path

Boat Ramp  
Entrance





JEFFERSON ST

WASHINGTON

MCLOUGHLIN BLVD

Gas Station

Kellogg Ck.

NB

Multi-use path

Boat Ramp Entrance

Boat ramp parking

To Willamette River



# ***Land Use & Transportation Planning***

## **Oregon Highway Plan**

"District" Highway classification (STA segment)

Facilities of county-wide significance

Function largely as county/city arterials or collectors

Management objective: Moderate to low-speed operations in urban areas. Inside STAs, local access is a priority

STA segment not a state freight route





## ***Land Use & Transportation Planning***

### **STA Management Plan**

Addressed truck freight mobility

Existing parallel state freight routes (I-205 & Hwy 224)

Median and turn lanes on the highway

Low to moderate vehicle speeds (30 mph)

Downtown destinations connected by network of local streets in addition to highway

New combined bus and light rail transit center under development in downtown core

List of needed future improvements

Commitment to study and improve access control measures along highway corridor and connecting city streets



## ***Access Management Strategy***

Meet or at least move in direction of STA access spacing standards

Min. 175' or mid-block if block spacing < 350'

Restrict turning movements where possible

Decrease width of approaches where possible, but accommodate existing use

Combine & consolidate existing approaches where possible, but allow properties to function as currently developed





## ***Access Management Strategy***

Approaches to City-owned properties may be closed or relocated as appropriate to meet goals of strategy.

Issue permits to all approaches constructed or reconstructed by project

Only two properties had permits

Revocable provisions









# ***Design = 101'***

Side walk	Plant Strip	Bike Lane	Travel Lane	Travel Lane	Median	Travel Lane	Travel Lane	Bike Lane	Plant Strip	Side walk
*8'	**6.5'	5'	11'	11'	16'	11'	11'	5'	6.5'	10'

































## ***What We Are Learning***

**Public favors non-auto movement in STA**

**Design standards facilitate many community objectives**

**Local land use and transportation planning need to support access management.**



## ***What We Are Learning***

**STA project development is a paradigm shift**

**Strengthens collaboration and partnerships**

**Higher level of customer satisfaction**





***Additional information available on ODOT's  
Access Management Program web site***

**<http://www.oregon.gov/ODOT/HWY/ACCESSMGT/>**

**ODOT, Transportation Development-Planning Section**

Oregon Transportation Plan

Oregon Highway Plan

**ODOT Highway, Roadway Engineering**

Oregon Bicycle and Pedestrian Plan

Oregon Highway Design Manual (2003 English Manual)

**City of Lincoln City**

Urban Renewal Department

Planning and Community Development Department

**City of Milwaukie, Oregon**

Community Development – Planning

Community Development – Engineering

***"Main Street ... When a highway runs through it: A  
Handbook for Oregon Communities"***