

How to use Asset Management to Win Friends and Influence People

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- City of Portland
- City Engineer





We have a compelling story!

Steps to win Friends and Influence People



Education

Goals

Facts

Data

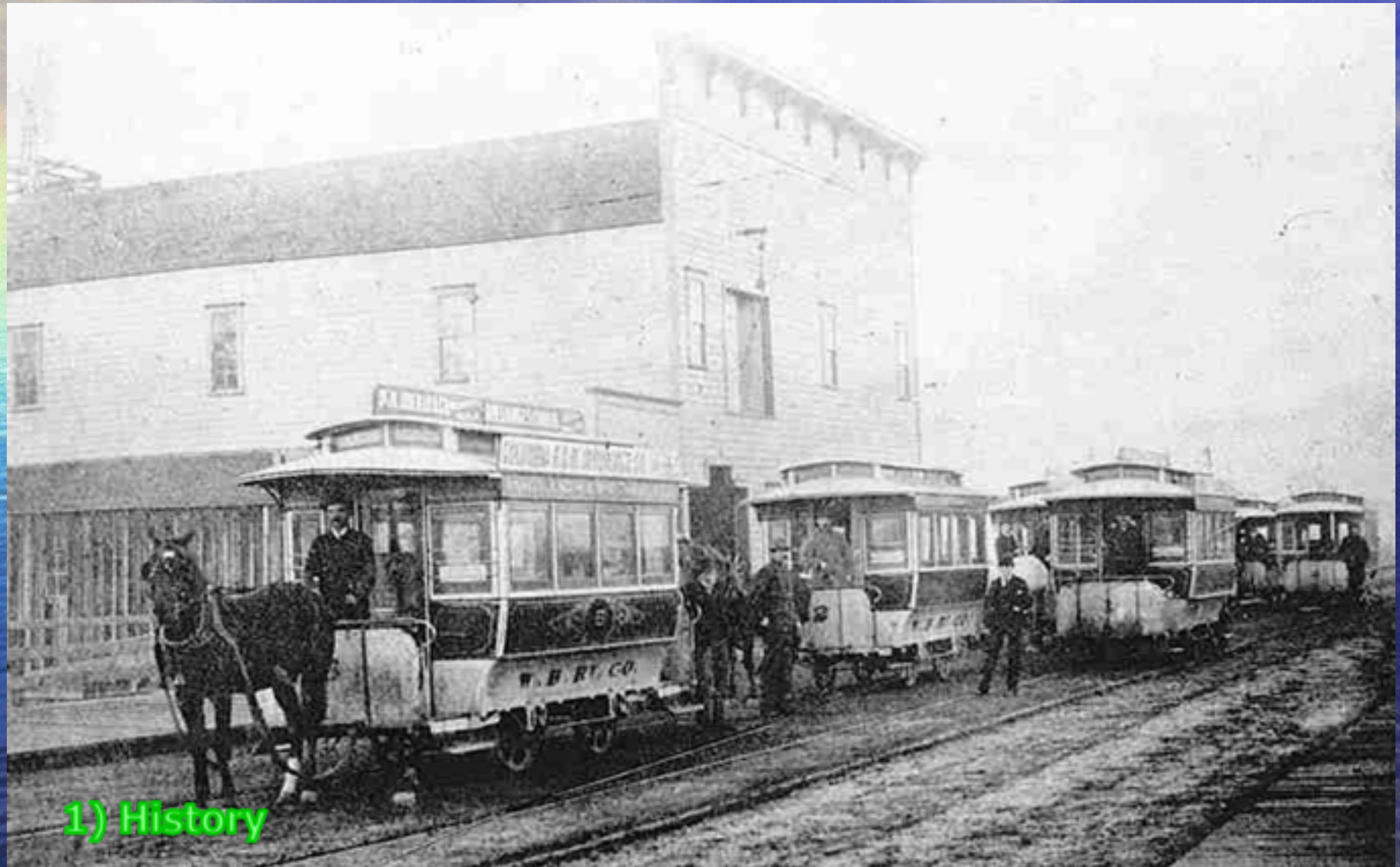
History



1) History

1860's - Front Avenue

1870's



1) History



1) History

1896 Great Plank Road (Canyon Road)



1) History

1915 - 33rd & Belmont



1) History

2014 - 33rd & Belmont



1) History

1930's - SW 6th & Burnside widening



1) History

2014 - SW 6th & Burnside



1) History

1932 - NE 82nd Ave N of Halsey



2014 - NE 82nd Ave N of Halsey

Portland's History

- **1843 – Portland is Established**
- **1851 – 1st Election in Portland**
- **1853 - 1st Ferry over Willamette (Stark St)**
- **1859 – Oregon Becomes a State**
- **1864 – 1st wooden sewer line constructed**
- **1870 – Portland Police Force Established**
- **1872 - 1st Horse drawn trolley/streetcar**
- **1880 – 1st Electric Street Lights**
- **1887 - 1st Bridge over Willamette (Morrison)**
- **1890 - 1st Electric streetcar system**

Portland's History

- 1895 – 1st Bull Run water flows to Portland
- 1907 – 1st Rose Festival was held
- 1910 – Current Hawthorne Bridge opens
- 1912 - Peak of streetcar system – **Why?**
- 1913 – 1st Traffic Signal
- 1917 - Interstate Bridge opens (I-5)
- 1950 – Last streetcar goes out of service – **Why?**
- 1952 – 1st Sewer Treatment Plant opens
- 1960 – 2nd Interstate Bridge opens
- 1973 – Portland's first bike plan is developed



What was the toll on the original Morrison Bridge?

1) History

1887 - Tolls on Morrison Bridge

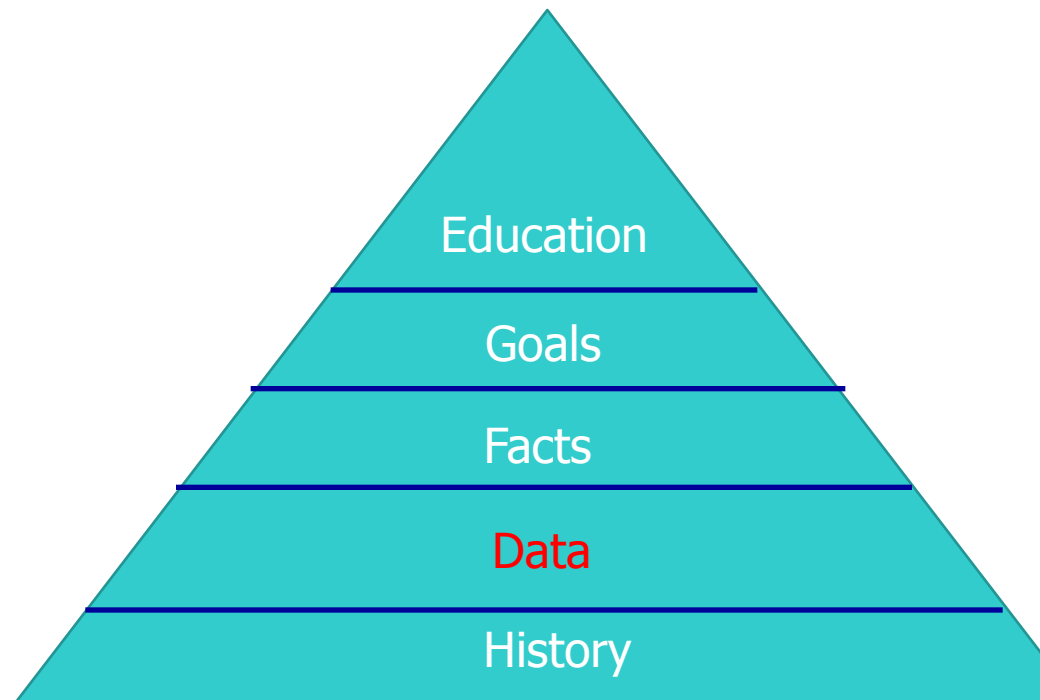
- **2 horses & driver – 20 cents**
- **1 horse & driver – 15 cents**
- **1 horse & rider – 10 cents**
- **Footmen – 5 cents**
- **Loose horse & cattle – 10 cents each**
- **Loose sheep & hogs – 5 cents each**

Changes that have Future Impacts

- **Usage changes (photos)**
- **Annexations**
- **Utility License Fee**
- **Other**



2) Got to have Data



- What type of data do we need to collect for Asset Management of Pavements?



2) Data



What type of data do we need?

- Measurement and type of distresses
- Surface type
- Pavement section
- Traffic Treatment history
- Other

Got to have Data

What is critical about the data?



2) Data

- Integrity of data – Must be repeatable
 - Training raters
 - Checking raters
 - “Garbage in is garbage out”
 - Other

Besides Data what do you need to do Asset Management?

2) Data

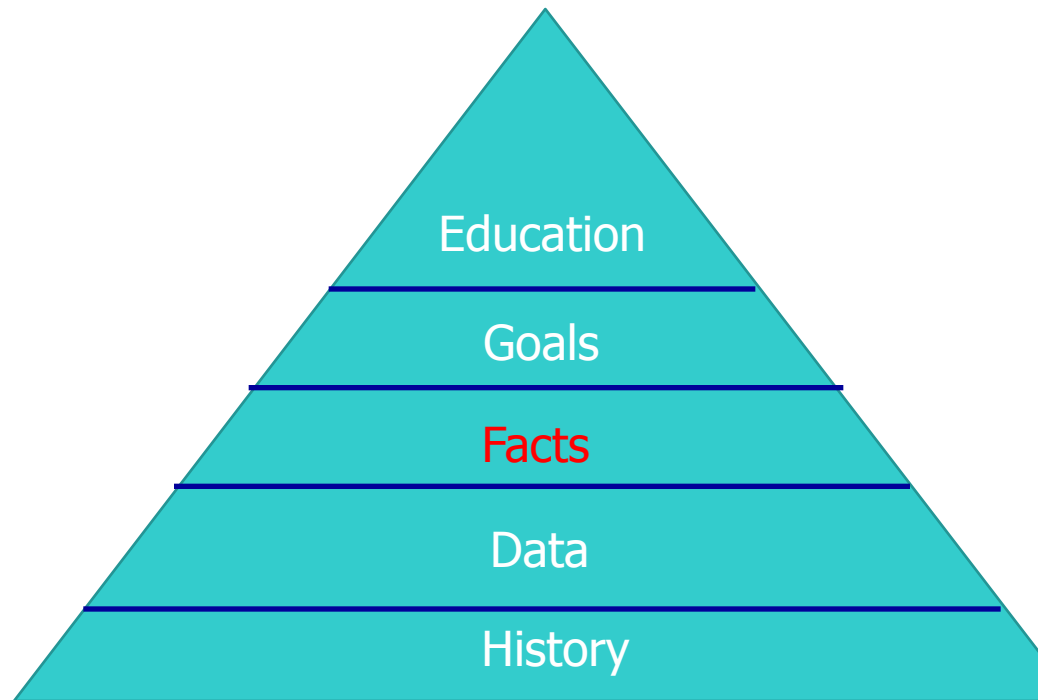
Besides Data what do you need to do Asset Management?

- Software System
- Deterioration Curves
- Treatment Rules
- Costs
- Other

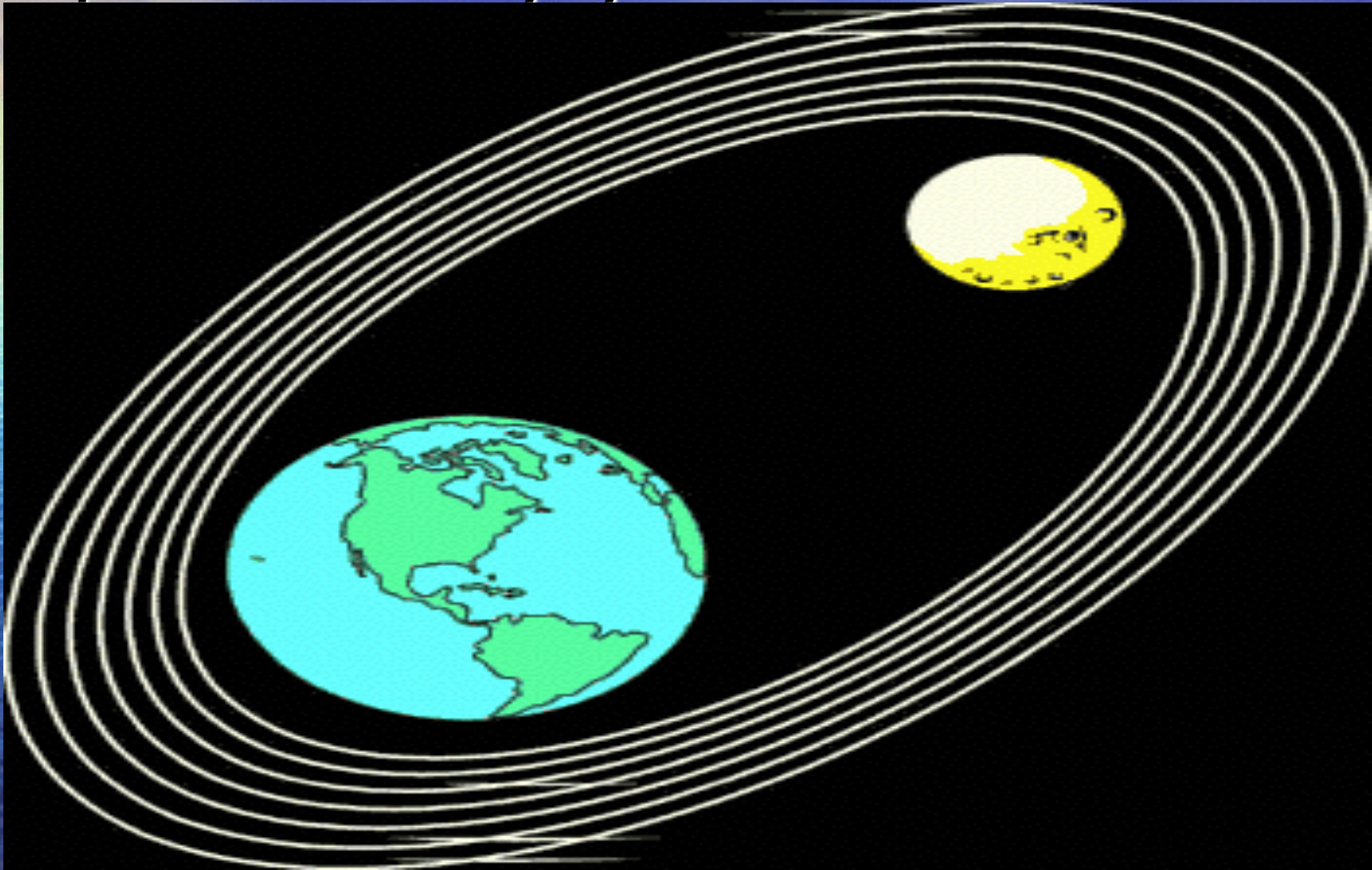
**JUST
THE
FACTS**



3) The Facts and Just the Facts



In the **Portland Metropolitan Area** vehicles travel an average of 27 million miles everyday. That is the equivalent of 56 round trips to the moon everyday!



The City of Portland Facts

- **Population – 580,000 – 29th largest US City**
- **4827 lane miles of road**
- **2510 miles of sidewalks**
- **220+ miles of bikeways/lanes**
- **156 bridges**
- **1072 traffic signals**
- **55,000 street lights**
- **Over 2000 miles of sewer & water lines.**

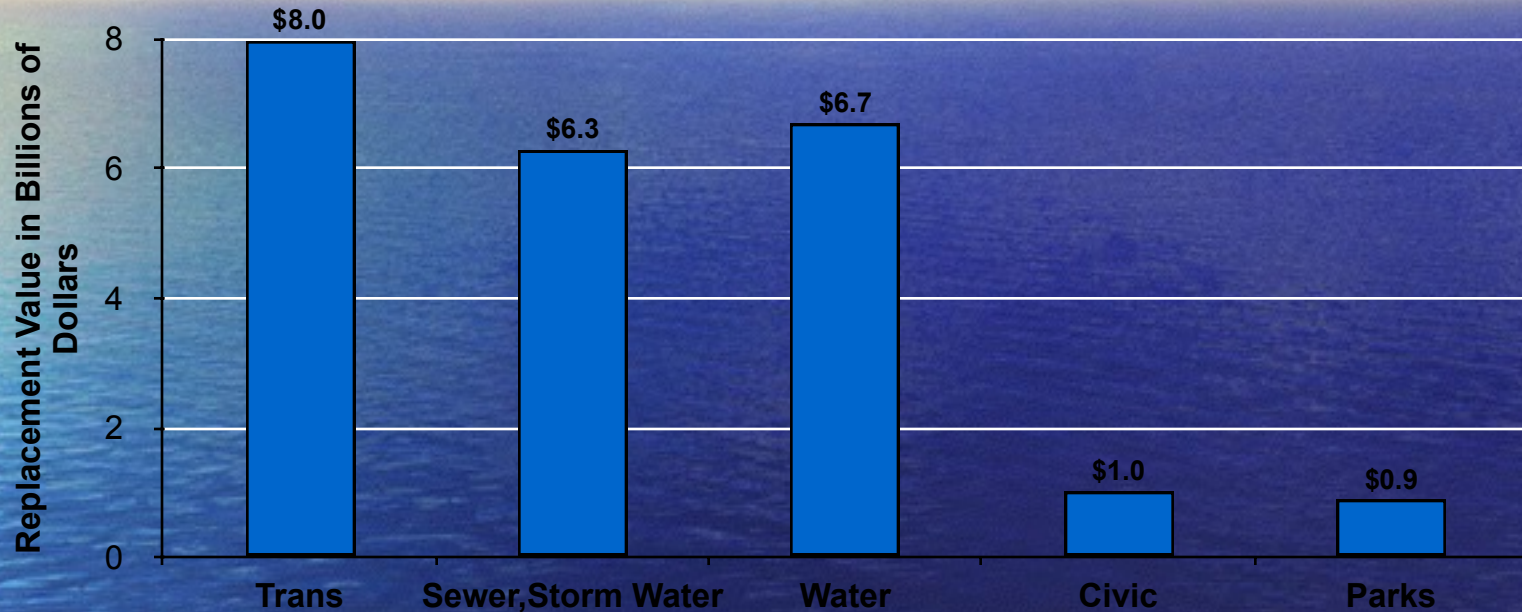
<p>Improved Streets Arterial/collector Local</p>	<p>4,827 lane miles* 1,865 lane miles 2,962 lane miles</p>
<p>Unimproved Streets</p>	<p>58.7 centerline miles</p>



We could build a 26 lane freeway between Portland & Seattle & it would be wider than a football field is long).

We could build a single lane road from Portland to Orlando and back to Denver

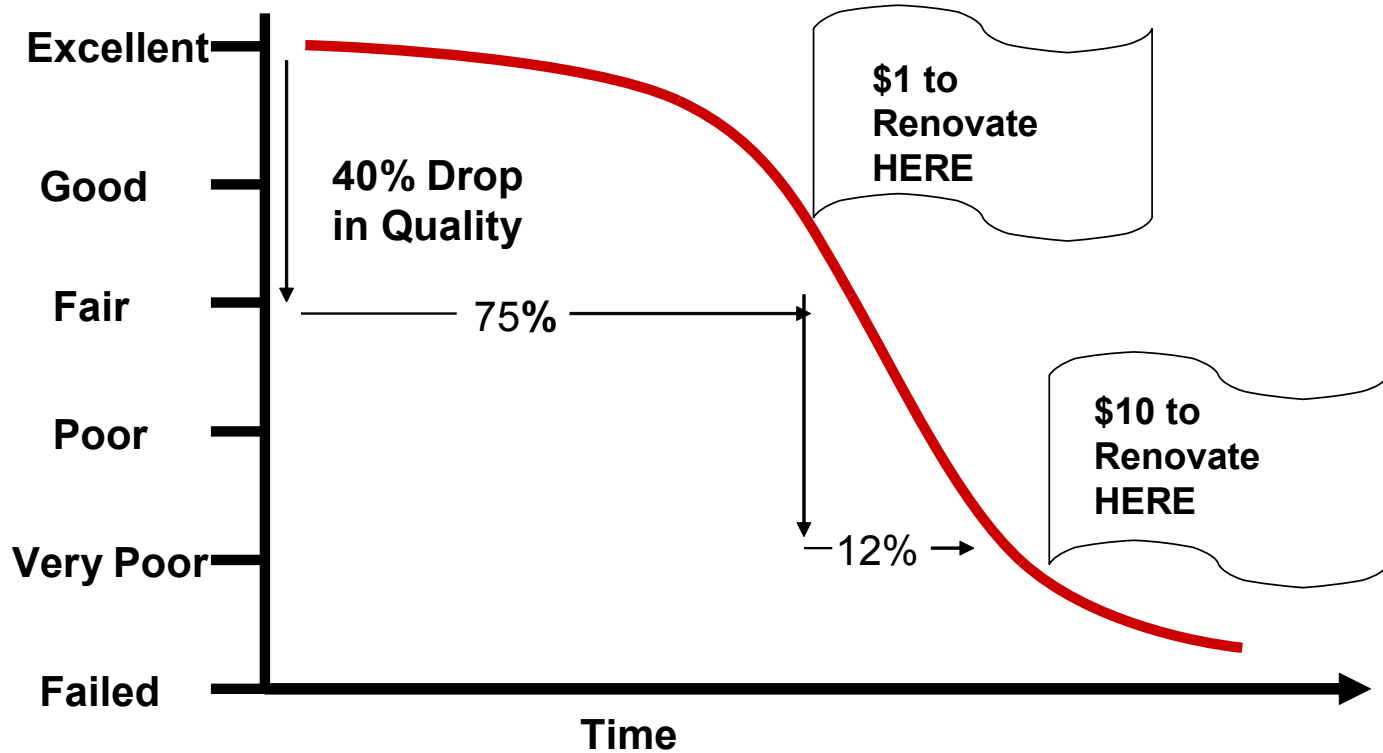
Transportation is the City's most valuable asset !!!



Citywide Status and Conditions Report 2010

The Cost of Deferred Street Maintenance

Pavement Life Cycle



Source: American Public Works Association

Tools in PBOT's Toolbox: Pavement Treatment Types/Costs

Strategy	Treatment	Cost estimate (per lane mile)
Preventive Maintenance	Crack seal	\$13,000
	Fog seal	\$8,500
Minor rehabilitation	Thin asphalt/ concrete overlay <2''	\$62,000
	Grind and pave <2	\$150,000
Major rehabilitation	Grind and pave >2''	\$500,000
Reconstruction	Base repair and reconstruction	\$1,000,000 (paving only)* \$1,000,000 - \$2,900,000 (total project costs)**

*Paving only includes design, construction, project management, and inspections. No ADA or storm water improvement costs are included.

**Reconstruction triggers fed/state/local requirements for ADA-compliant curb ramps and storm water improvements. Additional costs can include lighting and signal replacement/upgrades, curb replacement, drainage system upgrades, right of way, and associated traffic control, utility relocation, project design and management, and inspection.

Collectors					StreetSaver Condition Category		
	Arterials	Collectors w/Busses	Collectors w/o Busses	Locals	Arterials	Collectors	Locals
PCI: >= 85	Do Nothing	Do Nothing	Do Nothing	Do Nothing	I	I	I
PCI: 70 - 84	Load % < 50	CS	CS	Do Nothing			
	Load % >= 50	CS w/ 5% BR	CS w/ 5% BR	CS			
PCI: 65 - 69	Load % < 30	CS	CS	CS	CS / Fog		
	Load % >= 30	CS w/ 5% BR	CS w/ 5% BR	CS w/ 5% BR	CS / Fog		
PCI: 55 - 64	Load % < 30	CS w/ 5% BR	CS w/ 5% BR	CS	CS / Fog		
	Load % = 30 - 39	2" M&F	2" M&F	CS w/ 5% BR	CS w/ 5% BR		
	Load % >= 40	2" M&F w/ 5% BR	2" M&F w/ 5% BR	2" OL or M&F	CS w/ 5% BR		
PCI: 45 - 54	Load % < 20	CS w/ 5% BR	CS w/ 5% BR	CS w/ 5% BR	CS w/ 5% BR		
	Load % = 20 - 29	2" M&F	2" M&F	2" OL or M&F	CS / Fog w/5% BR		
	Load % = 30 - 39	2" M&F w/ 5% BR	2" M&F w/ 5% BR	2" OL or M&F	2" OL or M & F		
	Load % >= 40	3" M&F	3" M&F	2" OL or M&F w/ 5% BR	2" OL or M&F w/ 5% BR		
PCI: 35 - 44	4" M&F	4" M&F	3" M&F	2" OL or M&F w/ 5% BR	IV	IV	IV
PCI: 25 - 34	6" M&F	6" M&F	4" M&F	3" M&F	V	V	V
PCI: 0 - 24	Reconstruct	Reconstruct	Reconstruct	Reconstruct	V	V	V

 Preventative Maintenance

 Minor Rehabilitation

 Major Rehabilitation

 Reconstruct

CS = Crack Seal

Fog = Fog Seal

M&F = Mill and Fill

OL = Overlay

BR = Base Repair

3) Facts

Prioritization: Streets of City Wide Significance

PRIORITIZATION CATEGORY	LANE MILES
Transit Trips > 75 Trips + Freight	219
Buses > 300 Trips	45
Freight Only	82
Buses 151 - 300 Trips	240
Buses 75 - 150 Trips	273
Neighborhood Greenways	172

Streets of Citywide Significance

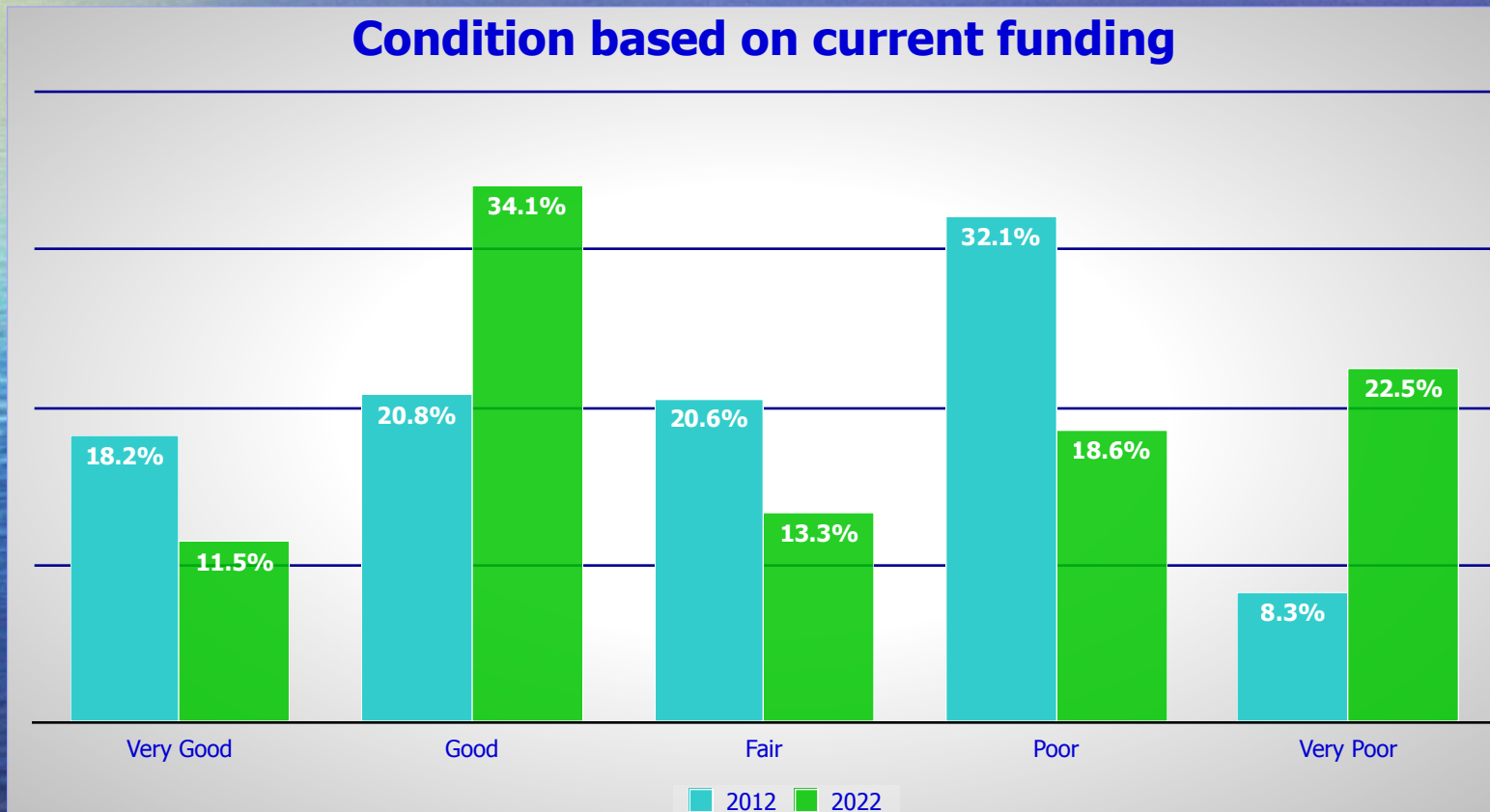


4) Facts

Condition of Portland's Busy Streets '12

•60% in fair or better

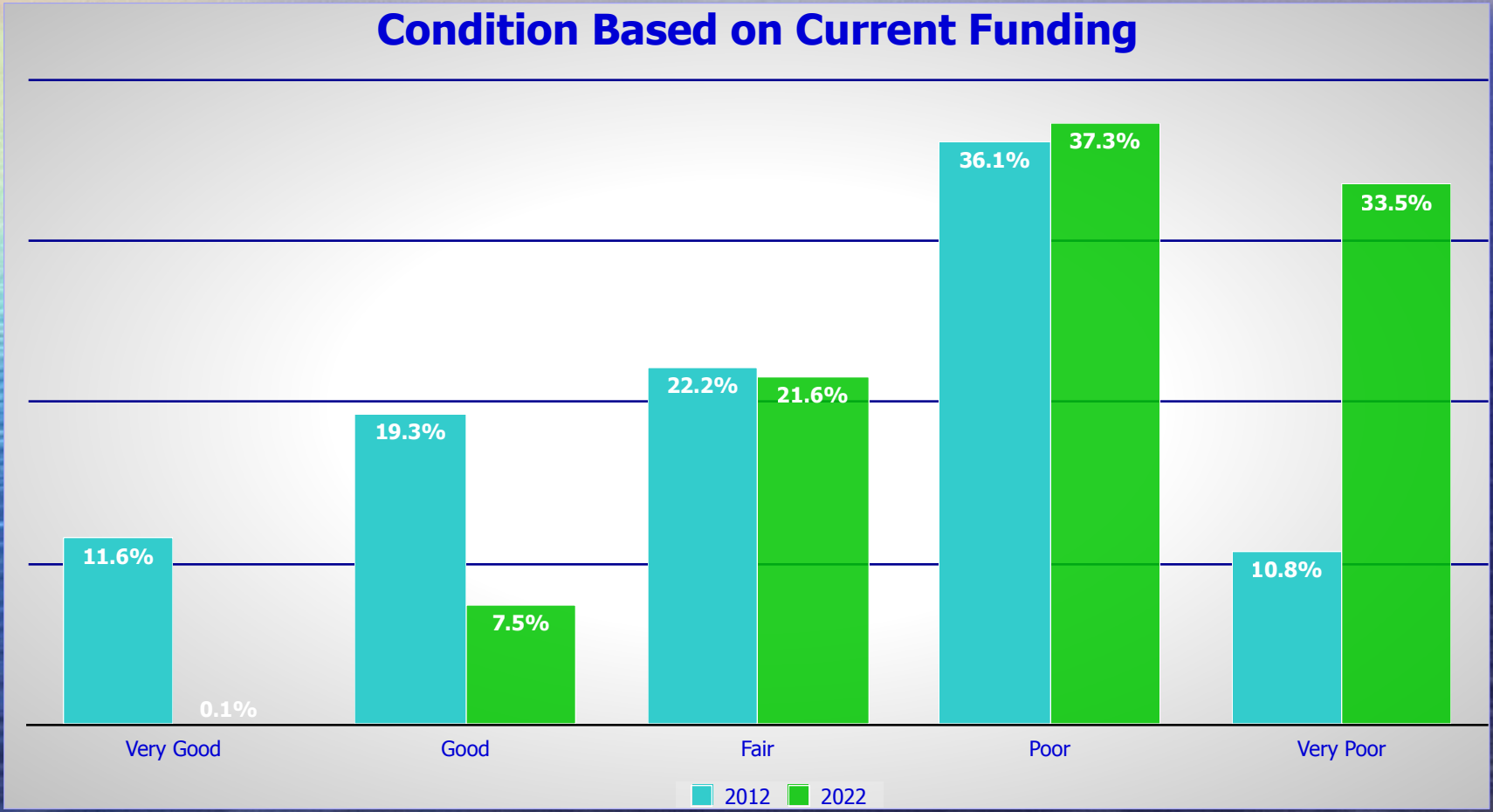
•40% in poor and very poor



Condition of Portland's Local Streets '12

•54% in fair or better

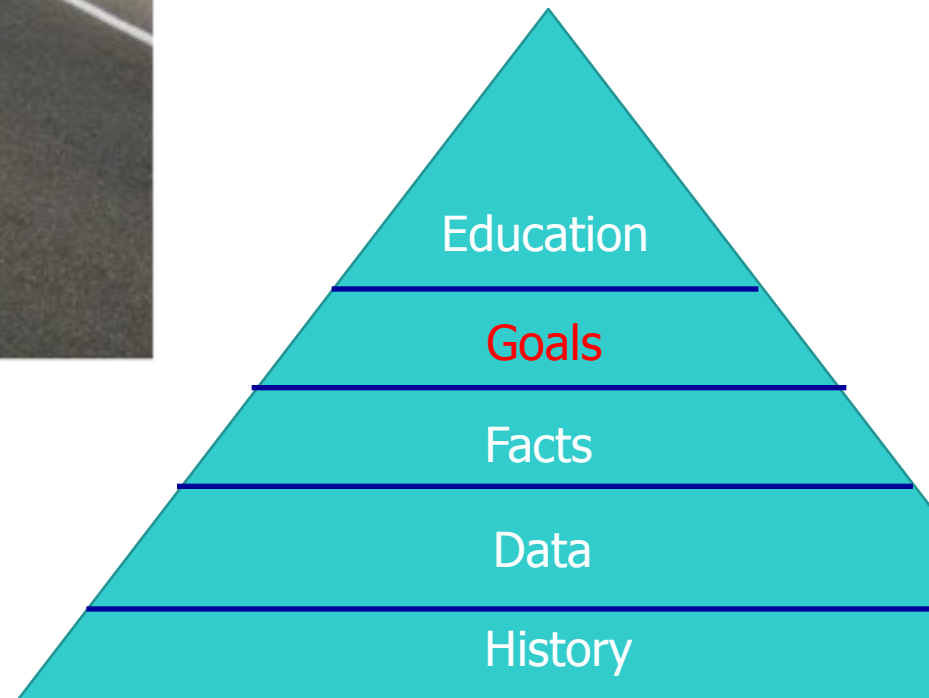
•46% in poor and very poor



4) Goals

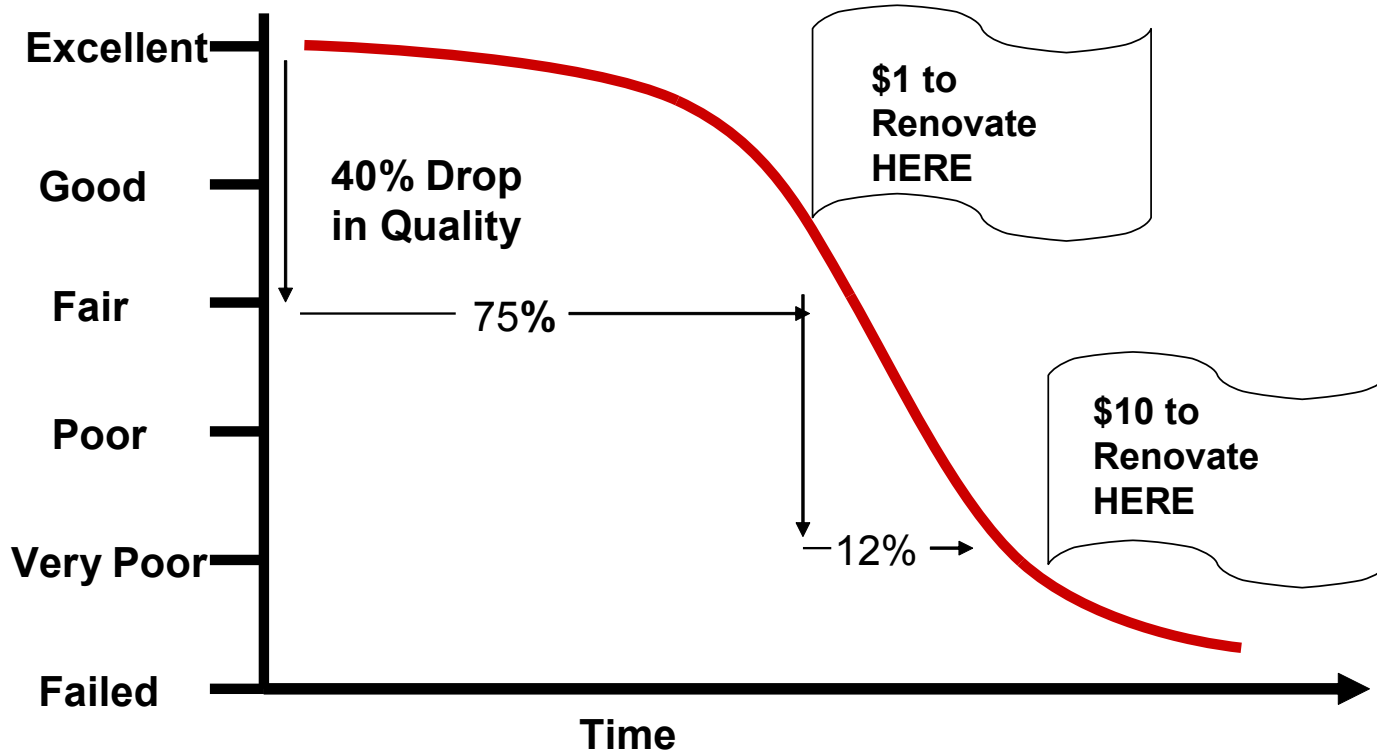


There is no Finish Line



The Cost of Deferred Street Maintenance

Pavement Life Cycle



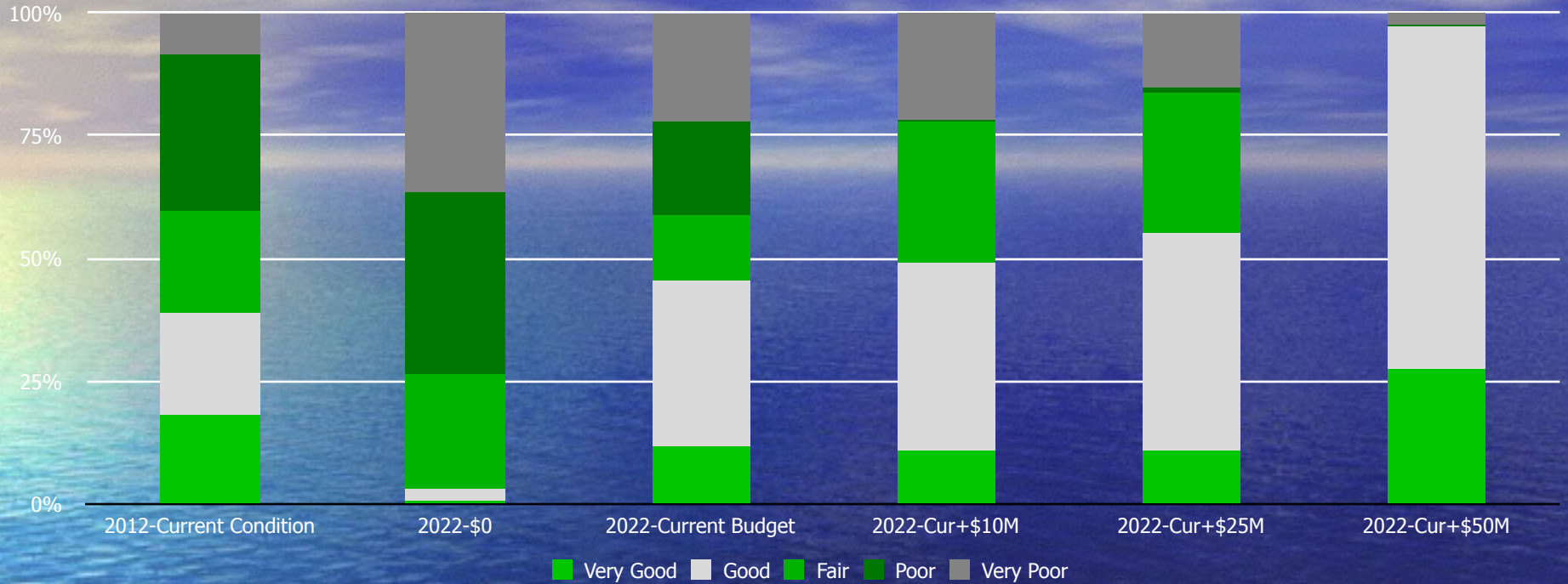
Source: American Public Works Association

4) Set Goals based on Data & Facts

- City's goals for "busy" streets – 80% Fair or Better and no more than 2% in Very Poor.

Condition of "Busy Streets"

Future Condition Based on Funding Scenarios



	2012-Current Condition	2022-\$0	2022-Current Budget	2022-Cur+\$10M	2022-Cur+\$25M	2022-Cur+\$50M
Very Good	18.2%	0.8%	11.5%	10.6%	10.8%	27.5%
Good	20.8%	2.3%	34.1%	38.8%	44.2%	69.4%
Fair	20.6%	23.5%	13.3%	28.9%	28.9%	0.1%
Poor	32.1%	36.8%	18.6%	0.4%	0.8%	0.4%
Very Poor	8.3%	36.7%	22.5%	21.8%	15.3%	2.5%

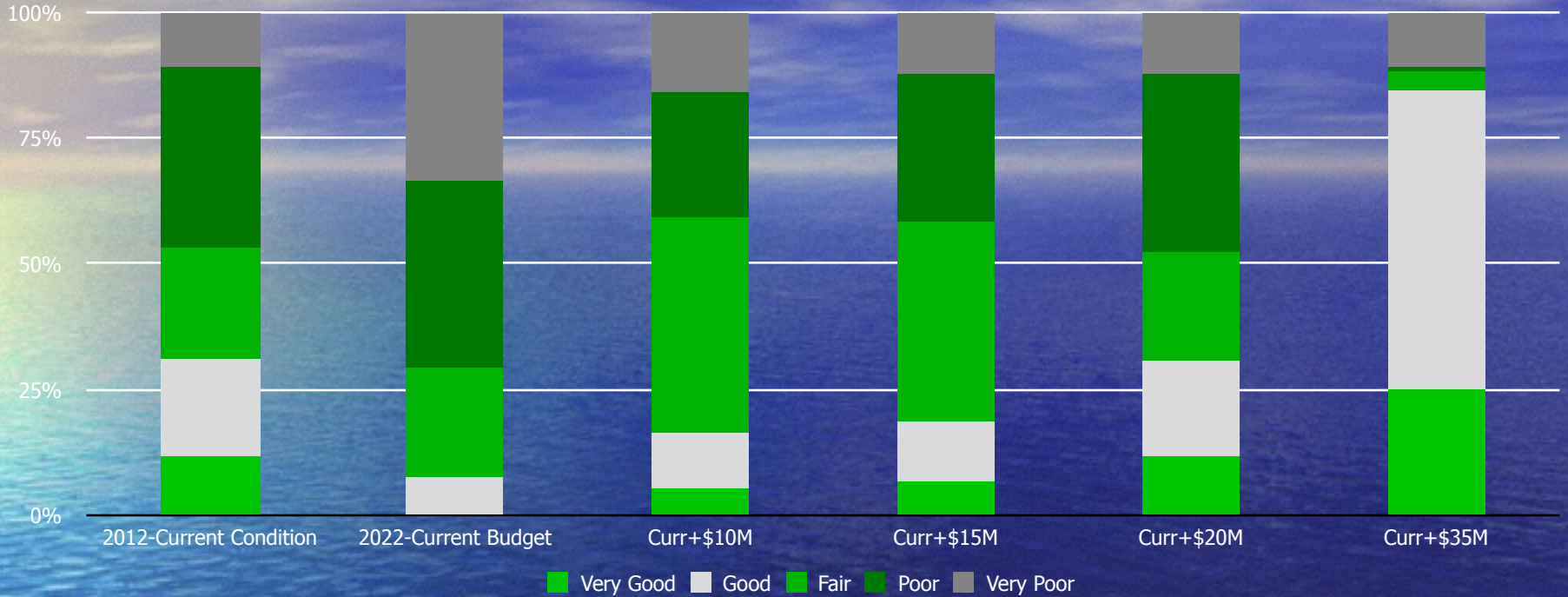
4) Goals

Set Goals/Targets to Measure

- City's goals for "local" streets – 70% Fair or Better and no more than 11% in Very Poor.

Condition of "Local Streets"

Future Condition Based on Funding Scenarios

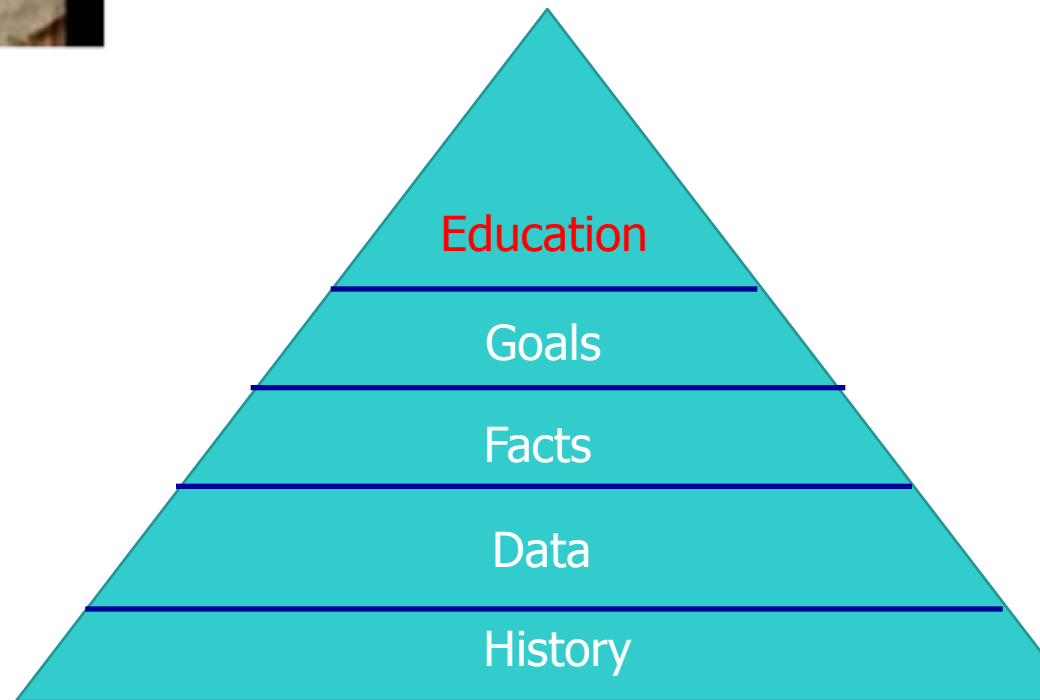


	2012-Current Condition	2022-Current Budget	Curr+\$10M	Curr+\$15M	Curr+\$20M	Curr+\$35M
Very Good	11.6%	0.1%	5.4%	6.5%	11.7%	25.1%
Good	19.3%	7.5%	10.7%	12.1%	19.1%	59.2%
Fair	22.2%	21.6%	43.0%	39.6%	21.6%	4.0%
Poor	36.1%	37.3%	24.8%	29.2%	35.3%	0.9%
Very Poor	10.8%	33.5%	16.2%	12.5%	12.4%	10.8%

4) Goals



5) Education



Education: Two 2 types of Assets

- Run to Failure – There isn't really any maintenance you can do.
- Examples:
 - Light bulbs
 - Electronics (TV, radio, phones, etc)

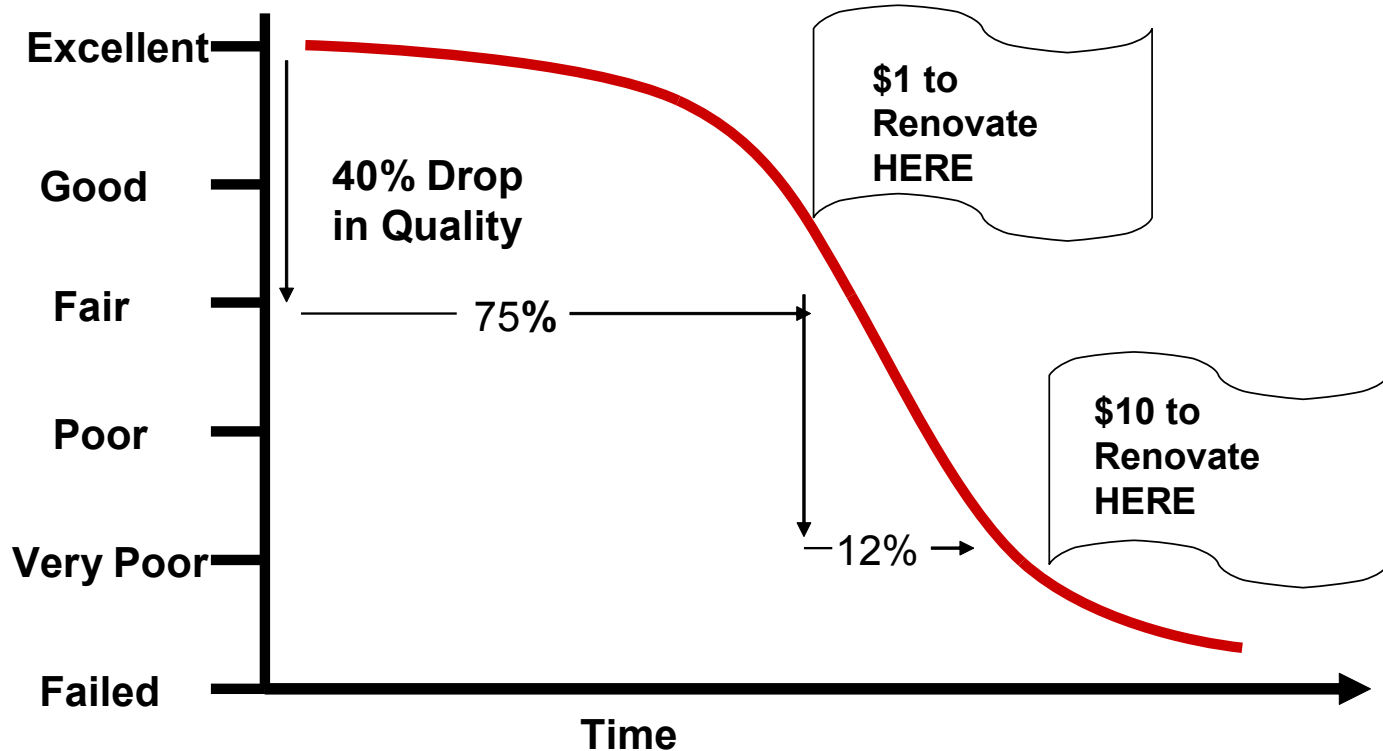
Education: Two 2 types of Assets

- Those that need maintenance
 - Cars
 - Houses
 - Bridges
 - Roads ! ! !

Without Maintenance the long term costs are much higher!!

The Cost of Deferred Street Maintenance

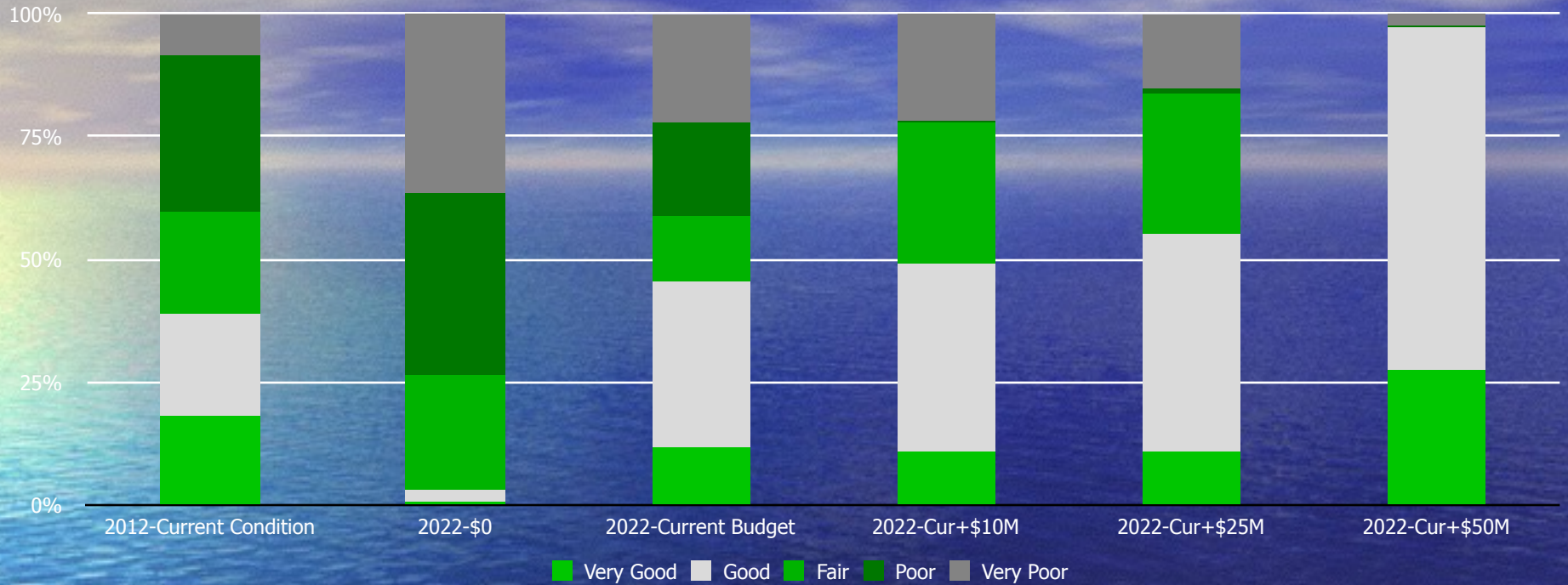
Pavement Life Cycle



Source: American Public Works Association

Condition of "Busy Streets"

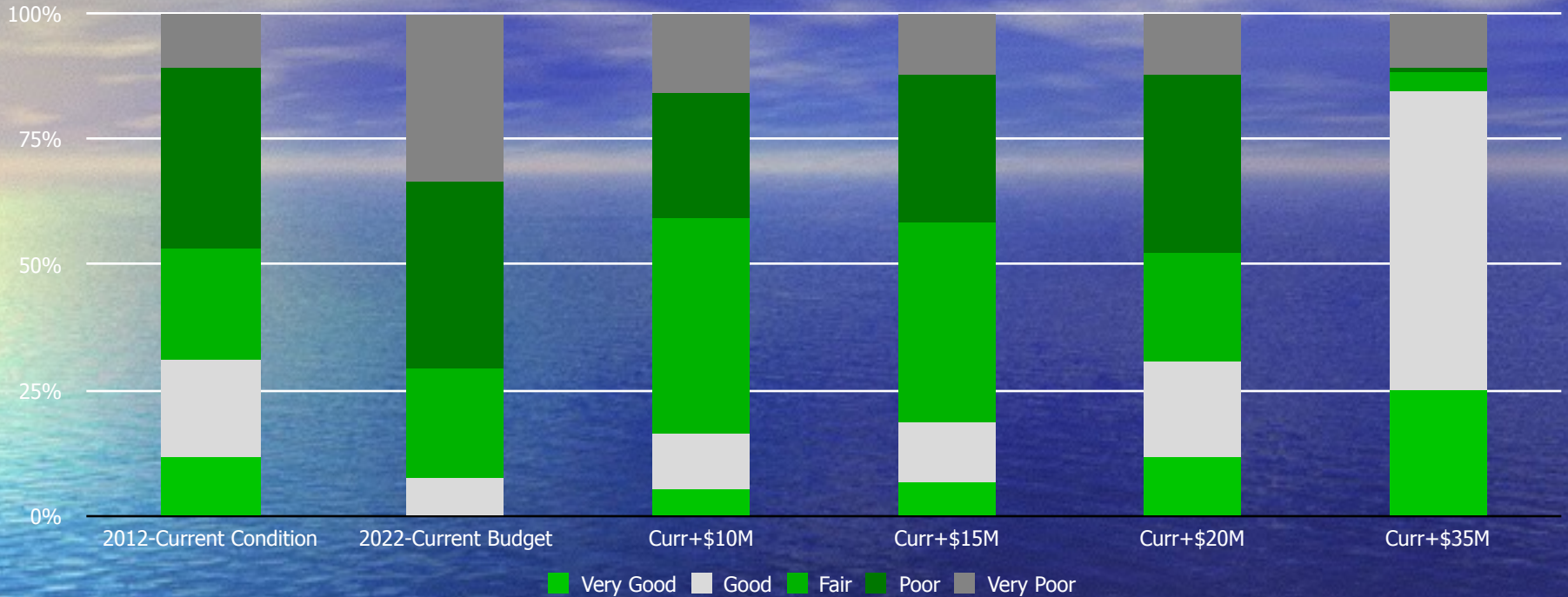
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Fair	20.6%	23.5%	13.3%	28.9%	28.9%	0.1%
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Condition of "Local Streets"

Future Condition Based on Funding Scenarios



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Fair	22.2%	21.6%	43.0%	39.6%	21.6%	4.0%
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Importance Asset Mgmt

Need to maximize our available \$\$ to minimize future costs

- "Right fix, Right Place, Right Time"
- "Pay me now or pay me later"

Education

“If it ain't broke don't fix it”

Education

- “If you wait until it is broke, you will go broke trying to fix it!!!”
- Use as an opportunity to educate that preventative maintenance pays for it self in the long run.



“For heaven’s sake! The city really needs to take care of these potholes!”

5) Education



5) Education

Other info

5) Education

INFLATION vs ROAD CONSTRUCTION

Household costs have risen since 1993.
The same amount of money buys each of us fewer goods.



The same holds true for road construction materials.



Federal and state gas taxes have not kept up with inflation.



Here's what that means to Oregonians:

*The last time the federal gas tax was increased was in 1993. The last state increase was in 2011.

For every mile of road that Oregon could build in 1993...



...ODOT can only build about a half-mile in 2014 because costs have more than doubled.



Federal Guidelines for Fuel Economy for 2026 are 54.5 MPG

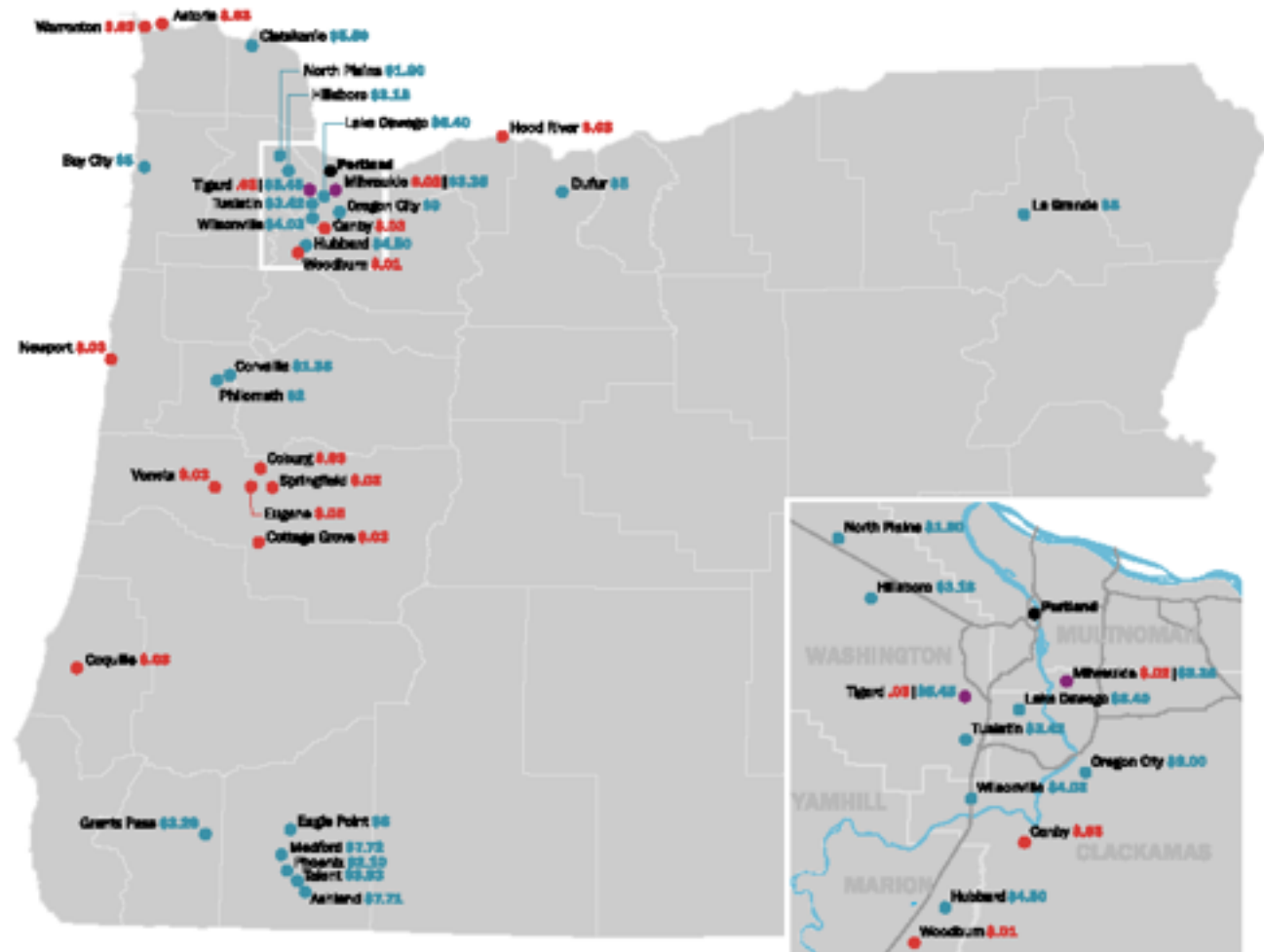
What does that mean for us?

Funding

LOCAL TRANSPORTATION FUNDING MECHANISMS



City	Gas Tax*	Street Fee**
Ashland	-	\$7.71
Astoria	\$0.03	-
Bay City	-	\$8
Canby	\$0.03	-
Clatskanie	-	\$6.00
Coburg	\$0.03	-
Coquille	\$0.03	-
Corvallis	-	\$1.38
Cottage Grove	\$0.03	-
Dufur	-	\$8
Eagle Point	-	\$8
Eugene	\$0.03	-
Grants Pass	-	\$3.30
Hillsboro	-	\$3.18
Hood River	\$0.03	-
Hubbard	-	\$4.50
La Grande	-	\$8
Lake Oswego	-	\$6.40
Medford	-	\$7.72
Milwaukie	\$0.02	\$3.38
Newport	\$0.03	-
North Plaine	-	\$1.80
Oregon City	-	\$8
Philomath	-	\$2
Phoenix	-	\$2.50
Springfield	\$0.03	-
Talent	-	\$3.50
Tigard	\$0.03	\$5.45
Tualatin	-	\$3.42
Vernia	\$0.03	-
Warrenton	\$0.03	-
Wilsonville	-	\$4.03
Woodburn	\$0.01	-



*Local gas tax in dollars per gallon

**Local street maintenance fee in dollars per residential parcel

Updated: 11/29/2013

Data source: Street fee data: City of Hillsboro Transportation Utility Fee Rate Comparison; Gas tax data: 0001 Current Oregon Fuel Rates, http://www.oregon.gov/odot/odot/11/01/Pages/current_f_taxes.aspx

Proposed Street Fees

- 2001 - \$1.50 Per Household
- 2007 - \$4.54 Per Household
- 2014 - \$11.53 Per Household
(proposed) – Now Income Tax

3 Solutions

- Engineering
- Financial
- Political

5) Education



Summary

Steps to win Friends and Influence People



Education

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Importance of Asset Mgmt

Need to maximize our available \$\$ to minimize future costs

- "Right fix, Right Place, Right Time"
- Cost Avoidance
 - "Pay me now or pay me later"

Education

“If you wait until it is broke,
you will go broke trying to
fix it”

Future without Asset Mgmt!



Questions???

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