

Transportation Major Maintenance

Response to Council Resolution 30204

Seattle Transportation
Presentation to Seattle City Council
Transportation Committee
May 15, 2001

Maintenance Cycle for Transportation Infrastructure



Preventative Maintenance

Targeted Major Maintenance Plan

Annual / Budgeted Major Maintenance

Accomplished

Major Maintenance

Results in renewed or extended useful life

Deferred

Major Maintenance

\$350 Million as of year end 2000
Results in increased maintenance costs and impacts useful life

Transportation Infrastructure Inventory - \$7.6 Billion (Asset Replacement Value)

- Pavement: \$4.7 Billion
- Roadway Structures: \$2.4 Billion
- Traffic Management Control Devices: \$85 Million
- Pedestrian & Bike Facilities: \$246 Million
- Neighborhood Traffic Control Devices: \$7 Million
- Street Trees & Landscaping: \$123 Million

Examples of Transportation Inventory Elements

- 4,230 lane miles of Pavement -
 - 1,524 arterial lane miles &
 - 2,706 non-arterial lane miles
- 142 Bridges
- 586 Retaining Walls & 5 Seawalls - 20 linear miles
- 430 Stairways - 6 linear miles
- 975 Signalized Intersections
- 975 Traffic Controllers
- 52 Interconnected Signal Systems
- 1,400 Beacons & Lighted Signs
- 13 miles of Guardrails
- 120,000 Signs
- 8,750 Parking Meters
- 4,700 Crosswalks
- 2,000 miles of Sidewalks
- 2,800 Curb Ramps
- 28.5 miles of Bike Trails
- 90.5 miles of Bike Routes
- 750 Traffic Circles
- 77 Traffic Diverters & Chicanes
- 30,000 Street Trees city maintained (120,000 street trees in total)
- 115 acres of Landscaping
- 1.6 million Lane Markers
- 1,100 miles Lane Stripes

Examples of Average Useful Life vs. Current Replacement Cycle

Inventory Item	Average Useful Life	Current Replacement Cycle
Pavement		
Asphalt	20 - 25 years	40 - 50 years
Concrete	60 - 80 years	150 - 200 years
Chip Seal	10 years	12 years
Structures		
Retaining Walls	20 - 40 years	300 years
Stairways	20 - 45 years	120 years
Bridges - varies widely by bridge	60 years	180 years
Traffic Control		
Signal Equipment	40 years	50 years
Signal Systems	15 years	30 years
Pavement Legends	7 years	8 years

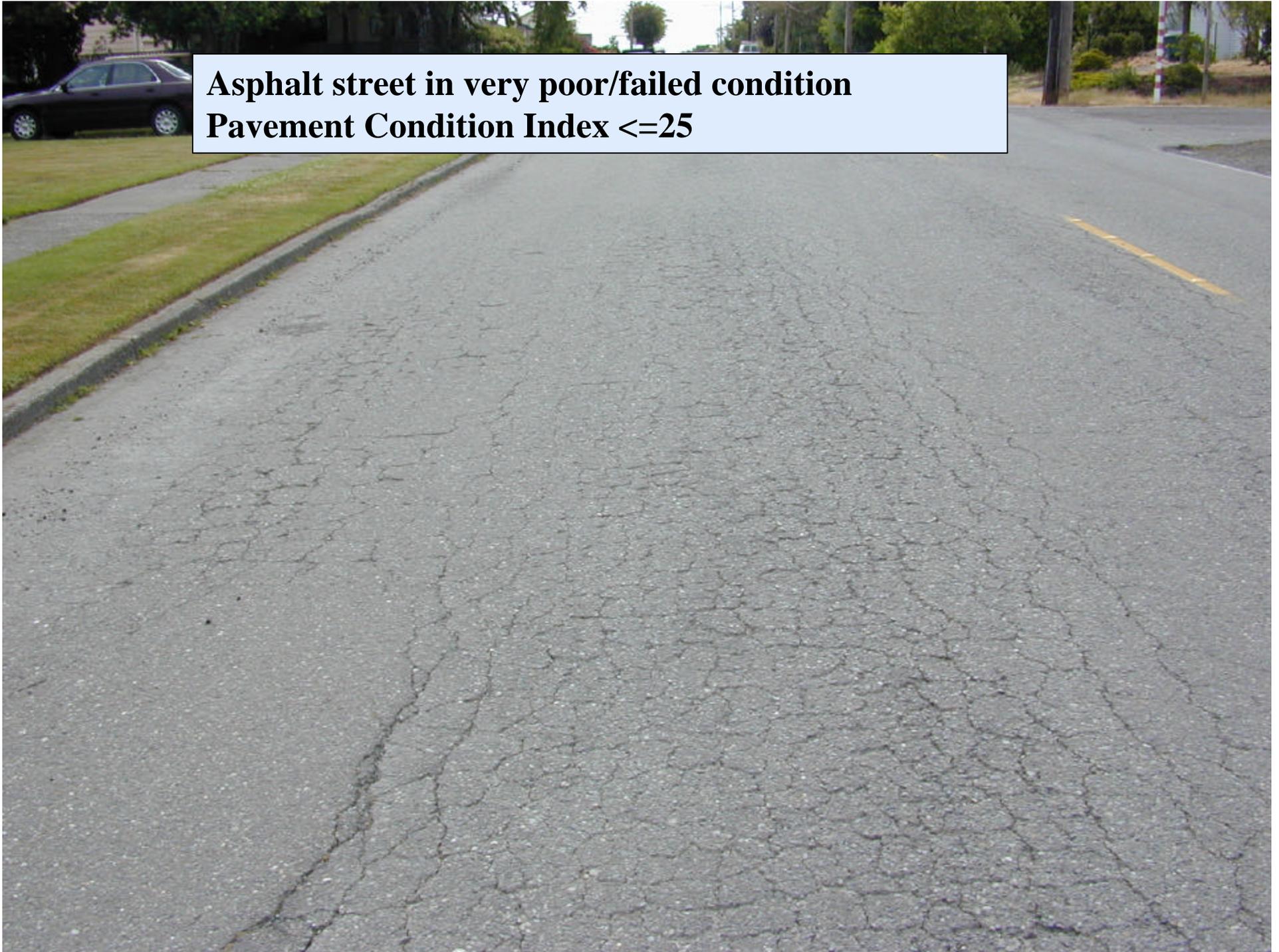
What Deferred Maintenance Looks Like

- Roadway Structures
- Pavement
- Traffic Control Devices

Asphalt street in excellent/very good condition
70<Pavement Condition Index <=100



Asphalt street in very poor/failed condition
Pavement Condition Index ≤ 25



**Concrete street in excellent/very good condition
70 < Pavement Condition Index <= 100**



**Concrete street in very poor/failed condition
Pavement Condition Index ≤ 25)**



NE 45th Street Viaduct

Shoring for the replacement of rotten timber cap beams.



Magnolia Bridge

Major crack in bridge deck. If this crack is not repaired, deterioration will continue and eventual load limiting and closure are possible



Fremont Bridge

Spall with exposed rebar in bridge column



Fremont Bridge Approach

Cracks, spalling and corrosion



Retaining wall at N. Northlake Pl & N 34th St

Crack and tilting of retaining wall



Target Level of Investment: Goals

The target level of investment is intended to provide the funding needed to:

- Operate the system safely
- Provide regular preventative maintenance
- Make cost effective major maintenance investments
- Strategically make capital investments in the safety of the system
- Make investments in projects that enhance the capacity of and the mobility throughout the system
- Make strategic enhancements to the system via leveraged dollars
- Represent a level of investment that can be physically accommodated by the capacity of the system without significant disruption to neighborhoods and businesses

Target Level of Investment: Funding Level

Operations & Preventative
Maintenance \$29 to \$32 million

Major Maintenance &
Safety \$46 to \$50 million

Mobility & Enhancements \$14 to \$15 million

Total \$89 to \$97 million

2001 Target Level of Investment - continued

Operations & Preventative Maintenance

This level of funding would provide for an adequate level of routine and preventive maintenance to maximize the life cycle of our existing infrastructure. **It would increase service levels in many areas, including:**

- Bridge preventive maintenance.
- Maintenance of street landscaping.
- Preventive maintenance of traffic signals.
- Street cleaning.

**\$29 to \$32
million**

2001 Target Level of Investment - continued

Major Maintenance & Safety

This funding level would maintain the existing system in its current condition, and would bring the entire system up to the targeted level of maintenance. **It would:**

- Improve the overall condition of Arterial Asphalt and Concrete Paving;
- Fully fund traffic signal and safety programs
- Reduce the backlog of major structures projects such as Fremont Bridge Approaches and Alaskan Way Seawall;
- Begin work on Phase II Seismic bridge improvements;
- Upgrade retaining walls that are in a weakened to failed condition.

**\$46 to \$50
million**

2001 Target Level of Investment - continued

Mobility & Enhancements

This level funding would allow for an increase in projects designed to enhance the capacity of Seattle's transportation infrastructure to move people, goods, and services. **It would provide for:**

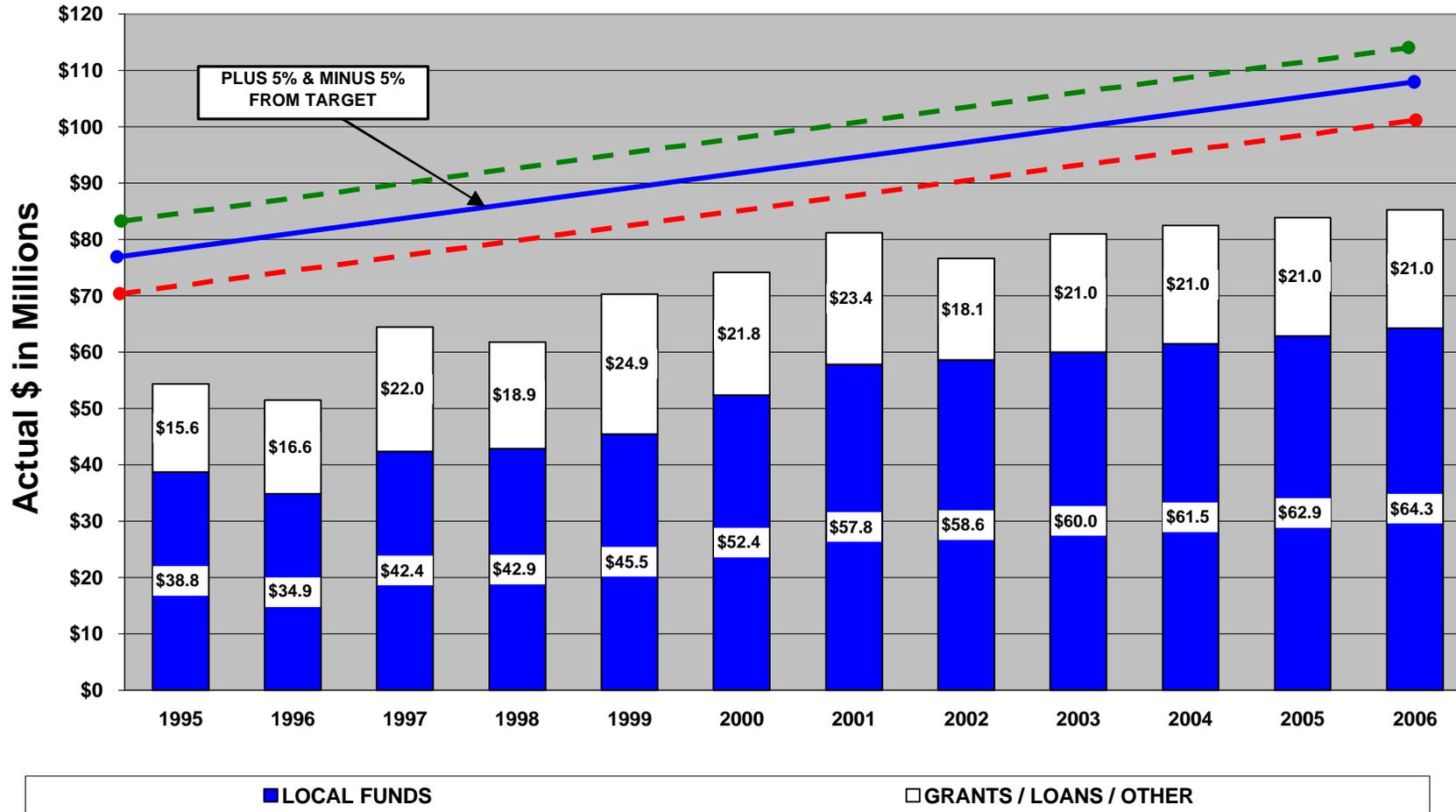
- Continue implementation of the Urban Trails Plan;
- New technology for signals and Intelligent Transportation System;
- Improvements as recommended in Neighborhood Plans;
- New sidewalk improvements;
- Neighborhood transit service improvements.

\$14 to \$15 million

Target Level of Funding for Major Maintenance



SEATRAN Target Level of Investment vs. Annual Actual/Projected Revenues
 [Does Not Include Finance General & Accompanying Leveraged \$'s Held for I-722]



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
TARGET [Mid Range]	\$78.7	\$81.3	\$83.8	\$86.0	\$88.0	\$90.0	\$93.3	\$96.1	\$99.0	\$102.0	\$105.1	\$108.2
ACTUAL	\$54.3	\$51.5	\$64.5	\$61.9	\$70.3	\$74.2	\$81.2	\$76.7	\$81.0	\$82.5	\$83.9	\$85.3
DIFFERENCE	(\$24.3)	(\$29.8)	(\$19.3)	(\$24.1)	(\$17.6)	(\$15.8)	(\$12.1)	(\$19.5)	(\$18.1)	(\$19.5)	(\$21.2)	(\$22.9)