

STREET MAINTENANCE

P R O G R A M

Roads represent one of the largest investments owned by the City, an investment that's in need of repair.

The Tigard City Council is seeking citizen input about the condition of its streets and how to protect this investment.

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Tigard Street Maintenance Review



In the coming months, City Council will be revisiting our current Street Maintenance Fee Program to ensure it remains an effective tool for safeguarding this community’s biggest investment: 148 miles of paved streets that keep the people of Tigard in motion.

Stay tuned to the *Cityscape* newsletter and our website for information such as status updates, ways you can get involved, and street maintenance facts.

www.tigard-or.gov/input

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Questions or Comments?

You can submit your comments on line! Follow the link at www.tigard-or.gov/input to leave any questions, comments, or concerns for City Council and staff. Frequently asked questions and items of interest will be posted online with answers for you to review.

If you'd prefer, you can submit your comments or questions in writing to:

Marissa Daniels
Street Maintenance Fee Comments
13125 SW Hall Blvd
Tigard, OR 97223
marissa@tigard-or.gov

Or, drop them off in the Tigard City Hall Permit Center.

Tigard City staff will be available throughout the summer to answer your questions in person. Check the web for an updated outreach calendar.

Street Maintenance 101

Street in good to excellent condition are characterized as having good riding quality, drainage, and appearance. The total annual maintenance investment is four to five times less following preventative maintenance strategy than if streets were allowed to deteriorate to poor and failed conditions requiring major rehabilitation.

Pavement Minor Maintenance Treatments

The Tigard Public Works Street Maintenance Division is responsible for the maintenance of 148 miles of paved streets, 1 mile of gravel streets, maintenance of street and traffic signs, installation and maintenance of guardrails and barricades, crack sealing, and patching street surfaces, maintenance of off-street bicycle paths and installation and marking.

Pavement Major Maintenance Treatments

There are four main pavement maintenance treatments commonly used on city streets:

1. **Slurry Seal** — Typically used on good residential streets to keep them in good condition
2. **Asphalt Overlay**— Often used as

- regular maintenance on busy streets, or to repair fair/poor residential streets
3. **Major Overlay**— Often used on busy streets that have deteriorated into poor condition
4. **Street Reconstruction**— Typically done only when a street's condition is very poor

For more information about each type of maintenance treatment, please visit our web site:

www.tigard-or.gov/input

Right-of-Way Maintenance

The City of Tigard currently hires a contractor annually to mow roadside grass and brush to maintain clear vision areas and minimize fire and complaint activity. The City also provides debris cleanup on an as-needed basis in these areas. The City trims trees annually to ensure street lights are functioning property. Also included in right-of-way maintenance is the maintenance of guard rails, delineators barricades, and street trees. This maintenance is currently



funded by the Tigard Public Works Department operating budget.

Street Lights

Tigard's electricity bill for traffic signals and street lights is about \$500,000 per year. It costs approximately an additional \$100,000 per year to maintain the system (replace burned-out lights, make repairs, fix damage, etc.). These are paid for with gas tax funds.

Sidewalks

It is up to property owners to maintain the sidewalks adjacent to their property. The City maintains sidewalks adjacent to City properties using funds from the Public Works Street Maintenance Division operating budget.

Importance of Street Maintenance

Community Livability and Economic Vitality

Collectively, Tigard's 148 miles of paved roads represents one of the biggest investments owned by the community. Our road system is what keeps the people of Tigard in motion as they travel to work, to school, to the supermarket, to the mall, and to parks and open spaces. Unfortunately pavement deteriorates over time as weather wears down the top surface, repeated pressures of vehicle loading (especially from trucks and buses) wears down the underlying pavement structure, and as the ground beneath the pavement settles. Smooth, long-lasting roads create an image of prosperity and ensure that goods and people can move efficiently throughout Tigard and the world beyond. In contrast, uneven roads in poor condition not only make travel unpleasant, they incur extra costs in terms of time and money every time a person or business needs to travel within the City.

Personal Costs

Individual drivers in Tigard are already paying extra money as a result of deferred road maintenance. Every time a car or

“...the average American car owner incurs an additional \$413 per year in operating costs because of rough road conditions.”

truck drives on roads in poor condition, the vehicle suffers accelerated wear and tear, increasing time and money spent at the mechanic, as well as increased fuel consumption and tire replacement. This problem is not unique to Tigard. A recent study by TRIP, a national transportation research group, found that the average American car owner incurs an additional \$413 per year in operating costs because of rough road conditions. This same report found that those living in the Portland Metropolitan Area incurred approximately \$235 per year. As such, drivers in Tigard are suffering less than the national average, but remain at a very real risk of paying more if roads are not maintained or repaired.

Consequences of Delayed Maintenance

The costs of deferred maintenance are borne by both the community and


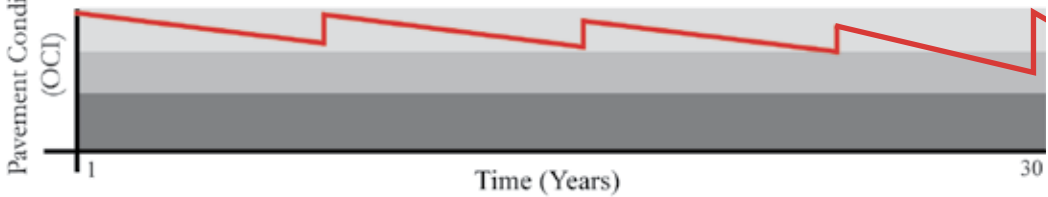

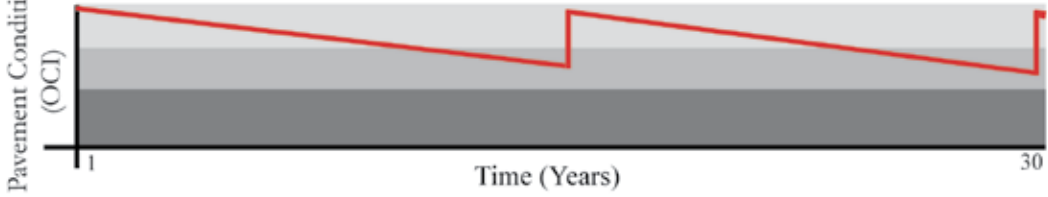

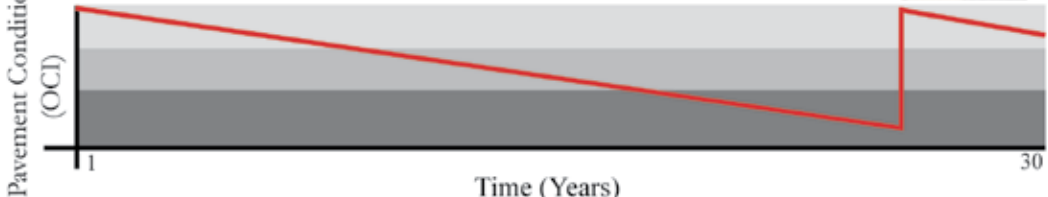
the individual driver. As with many investments, timely investments in routine maintenance in roads can extend pavement life and provide for a safer driving experience. Not only will roads last longer, but repairing a failed road can be four to nine times more expensive than a routine maintenance program. With a limited amount of funds available, the community is better served by spending the same amount of money maintaining a greater amount of road miles, than completely rebuilding smaller sections as the entire network begins to fail. In other words, if we can keep good streets good, we can maximize the use of limited dollars.

As demonstrated in the following graphs, the worse a pavement condition, the more expensive it is to repair. For instance, routine maintenance and surface treatments can be implemented for as little as \$1.50 to \$3.00 a square yard of roadway. This can increase dramatically to \$15.00 a square yard to overlay the road with new asphalt, and up to \$90.00 a square yard if the street is allowed to completely crumble, therefore needing to be rebuilt.

30-Year Pavement Maintenance Alternatives: Neighborhood Route

Traffic: 1,500 Vehicles per Day

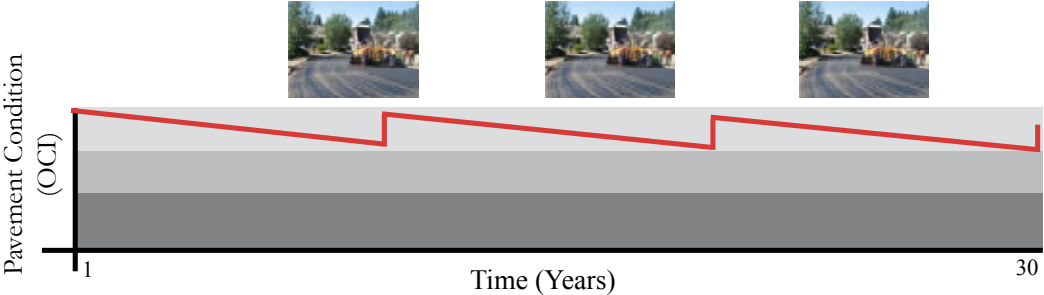
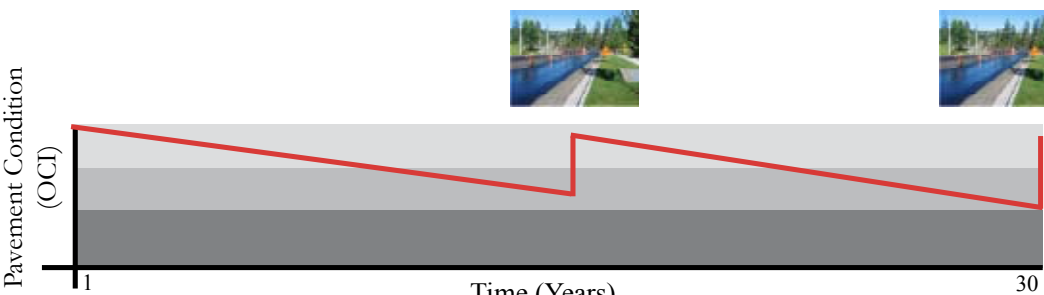
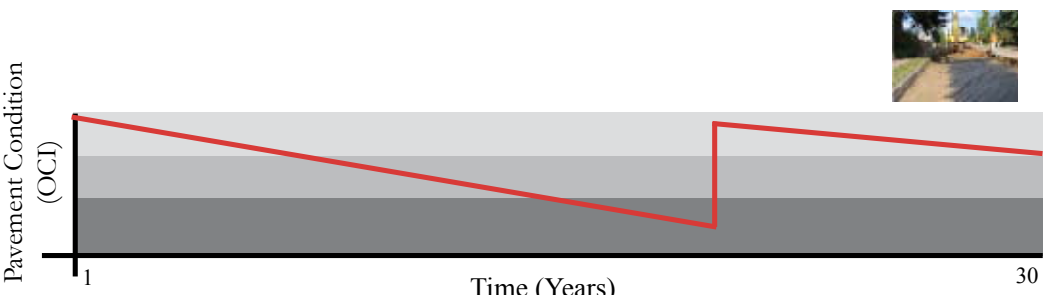
Dimensions: 1,000 feet long, 34 feet wide

Option	Maintenance Alternatives	Details	Average Pavement Condition	Total Cost
1 Regular Slurry Seals Every 7 Years	 	3 Slurry Seals, 1 Overlay	81 Surface Roughness; Only Minor Cracks; Pavement Intact	\$81,600 (\$454,000 per mile)
2 Pavement Overlays Every 12 Years	 	2 Overlays	76 Surface Roughness; Some Cracking; Pavement Mostly Intact	\$102,000 (\$591,000 per mile)
3 Wait until Pavement gets very bad, then repave	 	1 Reconstruction at 25 Years	58 Widespread Cracking; Potholes Common; Some Pavement Structural Weakness Developing	\$227,000 (\$1.20 million per mile)

30-Year Pavement Maintenance Alternatives: Arterial

Traffic: 12,000 Vehicles per Day

Dimensions: 1,000 feet long, 34 feet wide

Option	Maintenance Alternatives	Details	Average Pavement Condition	Total Cost
<p style="text-align: center;">1</p> <p>Pavement Overlays Every 10 Years</p>		<p>3 Two Inch Overlays</p>	<p style="text-align: center;">80</p> <p>Surface Roughness; Only Minor Cracks; Pavement Intact</p>	<p style="text-align: center;">\$168,000</p> <p>(\$887,000 per mile)</p>
<p style="text-align: center;">2</p> <p>Pavement Major Overlays Every 15 Years</p>		<p>2 Major Overlays</p>	<p style="text-align: center;">74</p> <p>Surface Roughness; Some Cracking; Pavement Mostly Intact</p>	<p style="text-align: center;">\$214,200</p> <p>(\$1.13 million per mile)</p>
<p style="text-align: center;">3</p> <p>Wait until Pavement Fails, then Reconstruct</p>		<p>1 Reconstruction</p>	<p style="text-align: center;">65</p> <p>Widespread Cracking; Potholes Common; Some Pavement Structural Weakness Developing</p>	<p style="text-align: center;">\$340,000</p> <p>(\$1.8 million per mile)</p>

What is the Street Maintenance Fee?



The Street Maintenance Fee is a monthly user fee designed specifically for the maintenance of existing roads in Tigard. The fee was recommended to City Council by a Citizen task force, and established through Ordinance No. 03-10 on November 18, 2003. Monthly fee charges for both residential and non-residential customers are billed and collected through the City's bi-monthly utility billing system.

I thought the state Gas Tax paid for street maintenance

Historically, Tigard roads have been maintained by the state Gas Tax, a source of funding that hasn't risen in 20 years, while road usage, operations and maintenance costs have increased at an overwhelming rate. As a result, Tigard is one of eighteen Oregon cities that have adopted Street Maintenance Fees

to close the gap between local needs and increasingly stretched state dollars. By having a locally based fee, communities are provided with a stable source of revenue to pay for preventative maintenance and repairs in a timely and efficient manner.

How are the rates determined?

Existing rates were set in 2004 under Council Resolution 04-12 which was based on a five-year maintenance and reconstruction plan. Both residential and non-residential users pay the fee. Residential users pay \$2.18 per month per dwelling unit. Non-residential users pay \$0.78 per parking space or fueling pump station. These fees generate \$800,000 a year for street maintenance.

Downtown

Although many of the downtown businesses do not have sufficient parking spaces off-street to meet the minimum code requirements, the City is providing over a hundred on-street parking spaces throughout most of Main Street to accommodate the businesses. Some of these spaces have time limits to encourage periodic turnover during a typical day.

Approximately 60 of those spaces are west of the railroad tracks. These spaces do not include those large parking lots that do exist and are presumably used by patrons of nearby businesses. The consensus in 2003 was that the patrons of the Main Street businesses are parking somewhere to get to the businesses and, as such, the downtown businesses should not be exempted from the charges.

“...a property must be occupied to be assessed the fee.”

Exceptions

All religious institutions will be charged half of the normal fee assessed to non-residential businesses, resulting in a 100-space maximum for those that reach the 200 space limit. This decision was made because parking requirements for these institutions are relatively high to accommodate large services, while the parking lots are not fully utilized during the week.

In addition, a property must be occupied to be assessed the fee. If a property is

What is the Street Maintenance Fee?

unoccupied for 30 days or more, the owner may apply for a fee waiver for that period.

Methodology

The methodologies used by most of the cities in Oregon that have established a street utility fee are based on trip generation rates for the types of uses to distribute the costs. These rates are found in a nationwide publication from the Institute of Transportation Engineers and are compiled through numerous studies. However, the trip generation methodology does not work well for Tigard. This methodology, if used as originally proposed, would have charged the non-residential uses 75% of the costs with Washington Square, Fred Meyer, and other large businesses bearing the brunt of the cost. Most of the traffic generated by these big businesses use state highways, such as Highway 217, 99W and Hall Boulevard. Yet, the fee to be collected is for maintenance of City streets. That methodology was not fair to the big businesses that draw their traffic from regional sources using state routes to get there. Under that methodology, all the businesses, including those downtown, would end up paying much more because

the trip generation rates are based on square footage of building.

The City needed to develop a methodology that distributes the costs of maintenance among all the non-residential and residential uses in as fair a manner as possible. No methodology is going to be perfect. The Oregon Grocery Association, in response to a challenge from Councilor

Sydney Sherwood to come up with an alternative methodology, suggested the use of the minimum parking requirements of the Tigard Municipal Code. City staff agreed that methodology proposed was much better at distributing costs to the actual users of the City's street network and worked with OGA to flesh out the details. The methodology adopted is one that focuses on the users of the City streets.



The current methodology is based on the following:

- Ties the street maintenance element of the fee to a 5-year maintenance and reconstruction plan prepared by the City of Tigard
- Uses actual road maintenance and repair projects on City streets, not state or county routes.
- Tailors the fee to the local data
- Sets a target revenue goal of \$800,000 annually (established in 2003)
- Allocates the costs of the arterial projects to the non-residential uses
- Splits the costs for the collectors on a 50-50 basis with residential and non-residential uses sharing the costs equally. The rationale for splitting the costs in this fashion is that many of the collectors do traverse residential areas and collect traffic from those areas to feed the other collectors and arterials in the system.
- Allocates the costs for neighborhood routes and local streets to residential uses
- Allocates the costs for residential uses on a per unit basis for both single family and multifamily units.
- Uses the minimum parking space requirements based on the Tigard Development Code for non-residential uses with a 5-space minimum and 200-space maximum. Like the trip generation rates, the parking space requirements are based on size of building and type of use. However, this approach takes into account businesses that draw from a larger area than just Tigard. The argument is that above 200 spaces, the traffic is more likely regional traffic, which comes via the state routes. The 5-space minimum is to establish a minimum amount for the billing to compensate for the costs of preparing and mailing out the bills.

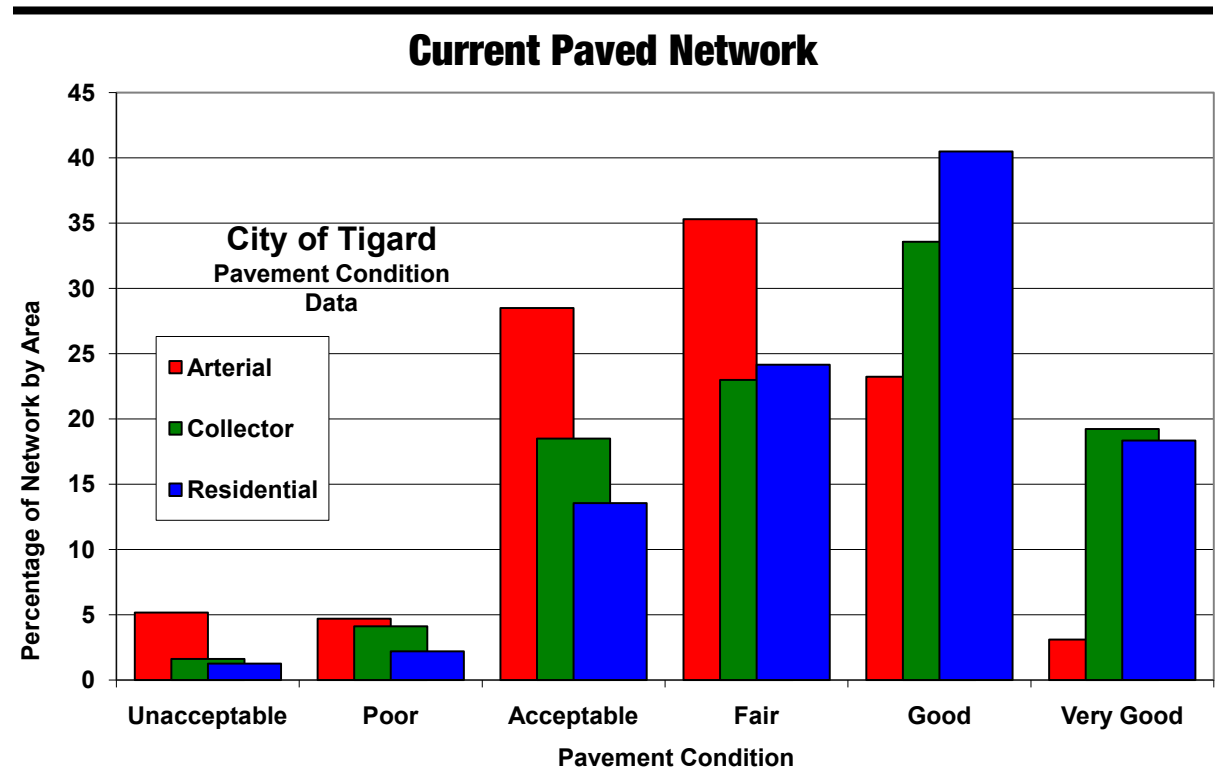
Pavement Condition

Tigard’s 148-mile paved street network represents an investment of over \$140 million, with an additional \$120 million invested in curbing, sidewalks, drainage, and right-of-way. The City’s street infrastructure represents the largest investment owned by Tigard citizens, and the overall pavement condition represents the health of this network.

Pavement Rating System

Pavement health is measured by a Pavement Condition Index (PCI). The PCI indicates the extent and severity of pavement distress such as cracking, rutting, raveling, etc. It is expressed as a number from 0 (very bad, essentially gravel) to 100 (essentially perfect). New streets start with pavement conditions in the high nineties. For ease of understanding, pavement condition is often classified as follows:

- **Very Good** (85 to 100)
- **Good** (70 to 85)
- **Fair** (55 to 70)
- **Poor** (40 to 55)
- **Very Poor** (Less Than 40)



Current Conditions in Tigard

The City completed a Pavement Management Analysis report re-rating all City streets, and providing a PCI rating for each street.

Today, Tigard’s streets are in fairly good condition. The network average is an overall

condition rating of 68 and the backlog of preventative maintenance is at 10%. However, there is cause for concern with 45% of the streets in the acceptable and fair categories. This means many streets will become reconstruction candidates in the next five to ten years. A preventative maintenance approach is needed to stop this trend.

Pavement Condition



Pavement Condition 93 (Very Good)



Pavement Condition 64 (Fair)



Pavement Condition 34 (Very Poor)

Condition Examples

To give you an idea of what a street in very good condition versus fair condition actually looks like, City staff prepared a presentation showing examples of pavement condition throughout the City.

The presentation includes:

- 79th Avenue north of Durham Rd; Paved in 2008; PCI of 95
- 108th Avenue south of Durham Rd; Paved in 2007; PCI of 93
- Commercial Street between 96th Avenue and 97th Avenue; PCI of 78
- Tigard Street near Fanno Creek; PCI of 72
- Bonita Road between Hall Blvd and

79th Ave; PCI of 72

- 72nd Avenue between Redwood Ln and Cardinal Ln; PCI of 64
- Commercial Street west of Main St and Hwy 99W Overpass; PCI of 52
- Commercial Street east of Main Street; PCI of 42
- 98th Avenue south of Greenberg Rd; PCI of 34
- Beveland St east of 72nd Avenue; PCI of 20

Factors Affecting Pavement Condition

The primary factors causing pavement deterioration are the vehicles that travel over the pavement. These factors include:

1. **Traffic volume** (see chart in the appendix, page a2);

2. **Volume of trucks and other heavy vehicles** — the pavement deterioration caused by a vehicle increases exponentially with the amount of weight on each axle; and,
3. **Vehicles accelerating, braking, and turning** which exerts more force on the pavement, and accelerates pavement deterioration. This is why pavement deteriorates faster near intersections and in sharp curves.

Other factors include:

1. **Weather** (which is the primary cause of decay on streets with very little traffic volume) — especially rain and freeze/thaw action;

Pavement Condition

2. **Settling of the ground beneath the pavement** — especially soils with high clay content; and,
3. **Construction and or utility work** that necessitates cutting into the pavement to access a utility line.

Examples of pavement deterioration include:

- **Rutting** — When pavement surface becomes depressed along the wheel paths
- **Longitudinal Cracking** — cracking along the roadway, parallel to the direction of travel
- **Transverse Cracking** — cracking across the roadway, perpendicular to the direction of travel
- **Alligator Cracking** — a combination of longitudinal and transverse cracking that has become so dense it resembles alligator scales
- **Loss of Fines** — when the cohesive material near the top of the pavement wears away, often due to weather or traffic loading
- **Raveling** (*perhaps better called unraveling*) — When pieces of aggregate come out of the pavement as it continues to lose its fines

- **Pumping** — when liquids (such as water or liquid asphalt) are drawn to the surface (so it looks like the road is pumping out the liquid)

Street Lifecycle

Streets are designed to last about 20 years, but the pavement begins to deteriorate much earlier. Studies have shown that pavement health worsens at an increasing rate as the pavement gets older.

Without periodic, preventive maintenance, a street's condition deteriorates 40% in the

Slurry Seal Example

Slurry seals are typically used on roads with a PCI/OCI in the 70 to 85 range. It applies a finer 'slurry' mixture of cohesive asphalt binder with finer sand-sized particles on top of the existing pavement, bringing the existing pavement back to near its original condition, as shown at right.

first 15 years of its life. Then over the next 5 years, the street will greatly deteriorate, requiring major reconstruction.

Preventive maintenance using cost-effective (\$1.60 to \$13/sq. yd.) slurry seals or 2 to 3-inch overlays during the first 10 to 15 years can extend a pavement life to 30 years and more. Without these surface treatments, costly reconstruction is required (\$35 to \$55/sq. yd.).

For a map showing pavement conditions throughout the City, see appendix, a2.



Pavement Major Maintenance Program (PMMP)

The PMMP is a yearly program of corrective and preventative maintenance on City of Tigard streets funded by the Street Maintenance Fee (SMF). The program helps to extend the life of the pavement structure by various means such as, complete removal and replacement of asphalt, slurry sealing and/or overlaying.

Through this program, the City is able to perform timely maintenance on City streets to avoid the much more costly reconstruction costs that result when streets are allowed to significantly deteriorate.

Past Projects

Each year, the City of Tigard develops a 5-Year Capital Improvement Plan (CIP) that determines the City's facility and capital needs for the current year and projected for four additional years. The Streets section of the Capital Improvement Plan contains the Pavement Major Maintenance Program. Since the program began in 2004, \$3,704,827 has been used for the maintenance of existing City streets. The Street Maintenance Fee Projects 2004–2008

Map (see appendix, a4) shows locations of past PMMP projects.

Future Projects

Streets scheduled to be included in next year's program are at various locations throughout the City. The Tigard Pavement Management 2009–2013 Map (see appendix, a5) shows maintenance projects included in this year's 5-Year Capital Improvement Plan. The number of streets proposed for rehabilitation is subject to change depending upon actual construction costs. Streets that need rehabilitation but cannot be performed in the current fiscal year will be moved to the next fiscal year.

The annual CIP is updated and coordinated by the City CIP Management Team that engages all City departments, advisory commissions, and Tigard citizens to identify needed public projects. To suggest a specific street be included in the PMMP get involved in the annual CIP update process by providing comments:

- **At Planning Commission review meetings and public hearings** held in February and March.

- **At Budget Committee and City Council review meetings and hearings** held in May/June.

“...we have focused our limited resources on preventive maintenance...”

Projects not included

State Highways, such as I-5, Hwy. 217, Hwy. 99W, and Hall Blvd, are not included in Tigard's Street Maintenance Fee. Washington County Roads, such as Scholls Ferry Road, Beef Bend Road, Bull Mountain Road, and parts of Greenburg Road, are not included in Tigard's Street Maintenance Fee.

In this year's Pavement Major Maintenance Program (PMMP), we have focused our limited resources on preventive maintenance such as slurry seals in residential areas, and pavement overlays on major streets. We are only planning pavement overlays on through streets. While there are several loops and cul-de-sacs that need pavement overlays, they are not planned to be done this year due to limited funding.

Future Street Maintenance Funding

Federal Stimulus Dollars

Recognizing the current funding gap, the City of Tigard applied for federal stimulus funding (via the American Recovery and Reinvestment Act) for pavement overlay projects, along with other projects. It appears that Tigard will be receiving some federal stimulus funds to construct pavement overlays on:

- **Durham Road** from Upper Boones Ferry Rd to Hall Blvd
- **72nd Avenue** from Upper Boones Ferry Rd to Fir St (just south of Hwy 217)
- **Bonita Road** from the I-5 bridge to Fanno Creek

These projects will help fill this year's gap in funding for Arterials and Collectors, but the future funding gap remains.

Proposed Fee Increase

When the existing Street Maintenance Fee was established, the target revenue was set at \$800,000 a year. Because an inflation adjustment was not built into the program, fees have remained constant while City needs and the costs of repairs have increased dramatically. For instance, asphalt

purchased in 2003 dollars with \$800,000 now requires approximately \$1,800,000 for the same amount, due to a steep increase in raw material costs. In addition, the City has experienced an increase in traffic levels throughout the system, accelerating the rate at which the City's roads deteriorate. Vehicle use is up 21% statewide, and City streets are seeing more and heavier trucks and buses. In other words, the existing fees are not enough to maintain a healthy road system in good repair.

The current Street Overall Condition Index (OCI) is 68 and declining every year due to an increasing backlog of maintenance. An OCI of 73 to 75 would be optimal for the City because it ensures that the City can enter into, and stay within, that perpetual maintenance cycle over the long term. The City can achieve that OCI target goal over a 20-year period with a fee increase and inflation adjustments each year to account for the rise and fall of material and labor costs. The amount required to maintain a comprehensive preventative maintenance program over the long term is \$2,200,000 in 2008 dollars. This continually revised target would ensure that the City could continue

to maintain the streets in a perpetual maintenance cycle that would keep good streets good and gradually improve the condition of the overall street network for the long term.

The proposed fee increase would include additional funding for right-of-way maintenance on the City's major street network as a part of overall street maintenance. This additional funding would address fire hazards and unsightly overgrowth resulting from unmown grass, weeds, and other plants in the planters, medians, and areas between sidewalks and property lines on the City's arterial and collector streets. The funding required for this maintenance work annually is \$300,000. The combined total for both street maintenance and right-of-way maintenance would be \$2,500,000 annually in 2008 dollars.

Proposed Increase Phases

The proposed fee increases are from \$2.18 to \$6.06 monthly for residential units, and from \$0.78 to \$2.44 monthly for non-residential users. The new fee, if implemented, would produce the annual revenue target of \$2,500,000. However, because the increase

Future Street Maintenance Funding

in fee is relatively large, immediate adoption of the new rates will not be sought. To lessen the immediate impact, the increases will be phased in over two years so that by 2011, the fees charged will be at the level needed to adequately maintain the streets and rights-of-way. An inflation factor of 6.5% annually is incorporated in the phase-in plan to ensure that the fees collected in 2011 will be at the level needed at that time. After 2011, any future increases to account for inflation will be based on one or more recognized construction cost indices.



	Current Rate	Fall 2009	Fall 2010	Fall 2011
Residential	\$2.18	\$3.73	\$5.22	\$6.86
Non-Residential	\$0.78	\$1.43	\$2.07	\$2.74

Note: Rates for 2009 to 2011 include a 6.5% annual inflation factor

Residential versus Non-residential Rates

The original 5-year plan developed in 2003 resulted in the residential users paying for 58% of the costs and the non-residential users 42%. The new 5-year plan developed in 2008 changes the ratio to 55% to 45%

because the City’s experience during the past 5 years has been that the larger main arteries of the City (collectors and arterial roads) require more frequent and extensive maintenance than do neighborhood roads. More than half the costs are still borne by residential users.

Among non-residential users, the largest payers are still the big businesses, but the maximum charges are capped at 200 spaces. Those with more than 200 spaces are many of the Washington Square businesses, the Lincoln Center, Fred Meyer along Highway 99W, and the Tigard Plaza along 99W and Hall Blvd., etc. Although Washington Square appears to be one entity, in reality it is a number of businesses, each charged individually, with a 200-space cap. Macy’s, Nordstrom, and J.C. Penney are among the businesses that own their properties. Lincoln Center is similar in that at least 5 different businesses are charged the 200-space maximum. Charges are associated with each water meter and assessed based on the square footage for each business.

Procedural Steps

In order for the City to raise fees, the

Council must vote on the following items at a public hearing where public testimony will be taken prior to the vote.

- **Revision to Ordinance No. 03-10 to add right-of-way maintenance as an integral part of street maintenance** under the street maintenance definition
- **Revision to Ordinance No. 03-10 to include local commercial and industrial streets** under the non-residential category for fee calculation purposes
- **Revision to Ordinance No. 03-10 to incorporate an annual inflation factor** to ensure that the fee rates keep pace with cost increases or decreases
- **Resolution to set the City’s long term OCI goal of 75**
- **Adoption of the new fee rates** with phase-in plan incorporated

Additional Options

The City has constrained options when searching for ways to maintain roads. One alternative to a fee increase is to allow the roads to continue to deteriorate, and pass the costs to future taxpayers. Another is to find an alternative funding source, a difficult proposition in today’s economic climate and constrained federal and state budgets.

Frequently Asked Questions

Q: What is the Street Maintenance Fee?

A: The Street Maintenance Fee is a monthly fee designed specifically for the maintenance of existing roads in Tigard. Monthly fees are collected from both residential and non-residential customers and are billed and collected through the City's utility billing system.

Q: How is the Street Maintenance Fee charged?

A: The Street Maintenance Fee is assessed on your bimonthly utility bill.

Q: Why is a fee increase being proposed?

A: When the existing Street Maintenance Fee was established in 2004, the target revenue was set at \$800,000 a year. Because an inflation adjustment was not built into the program, fees have remained constant while City needs and the costs of repairs have increased dramatically. In other words, the existing fees are not enough to maintain a healthy road system in good condition.



Q: How are residential and commercial fees determined?

A: The original 5-year plan developed in 2003 resulted in the residential users paying for 58% of the costs and the non-residential users 42%. The new 5-year plan developed in 2008 changes the ratio to 55% to 45% because the City's experience during the past 5 years has been that the larger main arteries of the City (collectors and arterial roads) require more frequent and extensive

maintenance than do neighborhood roads. More than half the costs are still borne by residential users.

Among non-residential users, the largest payers are still the big businesses, but the maximum charges are capped at 200 spaces (non-residential users are charged on the number of parking spaces required in the Tigard Development Code). Although Washington Square and other shopping centers appear to be one entity, in reality they are a collection of separate businesses, each charged individually, with a 200-space cap. Charges are associated with each water meter and assessed based on the square footage for each business.

Q: If the proposed increase is approved, how much will my rates increase and when?

A: The proposed fee increases are from \$2.18 to \$6.06 monthly for residential units, and from \$0.78 to \$2.44 per required parking space for non-residential uses. Increases will be phased in over two years so that by 2011, the fees charged will be

Frequently Asked Questions

at the level needed to adequately maintain the streets and rights-of-way. An inflation factor of 6.5% annually is incorporated in the phase-in plan to ensure that the fees collected in 2011 will be at the level needed at that time. After 2011, any future increases to account for inflation will be based on one or more recognized construction cost indices.

Q: Your website states that the current rate for residential users is \$2.18 per month, but when I check my utility bill the amount charged for the Street Maintenance Fee is twice that amount (\$4.36), why?

A: Because the City of Tigard sends out utility bills on a bimonthly schedule (every two months), the amount shown on your bill is actually for two months.

Q: Are exceptions allowed?

A: All religious institutions will be charged half of the normal fee assessed to non-residential businesses, resulting in a 100-space maximum for those that reach the 200 space limit. This decision was made because parking requirements

for these institutions are relatively high to accommodate large services, while the parking lots are not fully utilized during the week.

In addition, a property must be occupied to be assessed the fee. If a property is unoccupied for 30 days or more, the owner may apply for a fee waiver for that period.

Q: What is the pavement condition on my street?

A: You can visit Tigard Maps and look up the pavement rating data for your street. Once you enter your address and are routed to the page displaying your property, just click on the Transportation tab at the top of the page, then choose pavement condition. It's that simple!

Q: Why consider raising rates during a down economy?

A: The City is looking to be fiscally responsible with your Street Maintenance Fee dollars. Streets are designed to last about 20 years, but the pavement begins to deteriorate much earlier. Studies have

shown that pavement health worsens at an increasing rate as the pavement gets older. The total annual maintenance investment is four to five times less following a preventative maintenance strategy than if streets are allowed to deteriorate to poor and failed conditions requiring major rehabilitation.

Q: Why can't the City wait until the economy improves?

A: The costs of deferred maintenance are borne by both the community and the individual driver. As with many investments, timely investments in routine maintenance in roads can extend pavement life and provide for a safer driving experience. Not only will roads last longer, but repairing a failed road can be four to nine times more expensive than a routine maintenance program. With a limited amount of funds available, the community is better served by spending the same amount of money maintaining a greater amount of road miles, than completely rebuilding smaller sections as the entire network begins to fail. In other words, if we can keep good streets good, we can maximize the use of limited dollars.

Frequently Asked Questions

Q: What about Tigard's share of state Gas Tax revenue?

A: Historically, Tigard roads have been maintained by the state Gas Tax, a source of funding that hasn't risen in 20 years, while road usage, operations and maintenance costs have increased at an overwhelming rate. As a result, Tigard is one of eighteen Oregon cities that have adopted Street Maintenance Fees to close the gap between local needs and increasingly stretched state dollars. By having a locally based fee, communities are provided with a stable source of revenue to pay for preventative maintenance and repairs in a timely and efficient manner.

Q: Will Tigard residents have an opportunity to vote on the proposed Street Maintenance Fee increase?

A: According to state law, utility rate increases need only approval by City Council. This is why your Council is making such an effort to hear from you! You can provide comments online, to staff, or at hearings held by Tigard City Council.

Q: What legislative steps are required to raise the fees?

A: In order for the City to raise fees, the Council must vote on the following items. Each will occur at a public hearing where public testimony will be taken prior to a Council vote.

- **Revise Ordinance No. 03-10 to add right-of-way maintenance as an integral part of street maintenance** under the definition of street maintenance;
- **Revise Ordinance No. 03-10 to include local commercial and industrial streets** under the non-residential category for fee calculation purposes;
- **Revise Ordinance No. 03-10 to incorporate an annual inflation factor** to ensure that the fee rates keep pace with cost increases or decreases;
- **Adopt a Resolution to set the City's long term Street Overall Condition Index goal at 75;** and
- **Adopt new fee rates** with a phase-in plan incorporated.



Q: The City of Tigard instituted a 3-cent per gallon gas tax. Why can't the City use that money?

A: The Tigard gas tax was developed by a citizen task force who recommended it as a way to fund improvements to the Greenburg Rd./99W/Main St. intersection ONLY. Collections from the Tigard tax are dedicated to this one project, and the tax automatically ceases once the project is completed and sufficient funds are collected to fully finance and pay for the improvements.

Transportation Financing Strategies Task Force

Task Force History

The original Transportation Financing Strategies Task Force established through Resolution No. 01-06 recommended the Street Maintenance Fee to City Council. The Task Force members were actively involved in the public outreach to obtain citizen and business input for submission as part of the Task Force recommendation. The fee was implemented in April 2004 and has provided a stable source of revenue for maintaining the existing street infrastructure. That effort took about three years and required persistence and dedication to see it through. City Council, through Council Resolution No. 04-51, acknowledged the accomplishments of the Task Force, concluded that phase of the Task Force's work, and commended the Task Force members for a job well done.

Although maintenance needs were addressed through the establishment of the fee, many major transportation improvements necessary to meet the current and future transportation demands still could not be implemented through



existing funding sources. The Task Force was reconstituted to explore funding alternatives for those major transportation improvements. Council Resolution No. 04-52 reconstituted the Task Force, established the mission for the Task Force, and appointed the members to serve on the reconstituted Task Force.

On October 26, 2004, the City Council adopted Resolution No. 04-85 adding two new members to the Task Force and expanded the mission by adding construction of sidewalks and right-of-way maintenance on collector and arterial streets to the scope.

The reconstituted Task Force recommended a local fuel tax to City Council dedicated solely to the improvement of the Greenburg Road/Highway 99W/Main Street intersection. This project, in conjunction with the County's project to improve the Hall Blvd/Highway 99W intersection, alleviates traffic congestion by removing the two largest traffic bottlenecks along Highway 99W in the City. The Task Force members led the public process to obtain citizen and business input to help Council in its decision-making process. Council established the local fuel tax in late 2006 and collections began in April 2007. The

Transportation Financing Strategies Task Force

project is now in the design stages for construction to begin in early 2010.

On December 18, 2007 City Council Resolution No. 07-74 acknowledged the accomplishments of the reconstituted Task Force, concluded that phase of the Task Force's work, and commended the Task Force members for a job well done.

On January 29, 2009 City Council adopted Resolution No. 09-01 to again reconstitute the Task Force to continue with the evaluation of feasible funding sources for the City's transportation and street infrastructure operation, maintenance and improvement needs.

The members of the newly-appointed Task Force are:

- John Bailey
- Rex Caffall
(Planning Commission Representative)
- Beverly Froude
- Cam Gilmour
- Dennis Mitchell
- Rick Parker
- Anthony Rivano
- Joe Schweitz

- Jennifer Standfield
- Christopher Warren
- Gretchen Buehner *(Council Liaison)*

The Task Force is now involved in the public outreach process to obtain citizen and business input into the proposed increases to the Street Maintenance Fee rates sufficient to meet the increases in cost since 2003 and to ensure a gradual improvement of the City's overall pavement condition over time. In addition, they will continue the evaluation of a variety of funding sources for the operation, maintenance and improvement of the City's transportation system. Recommendations will be submitted to City Council for consideration.

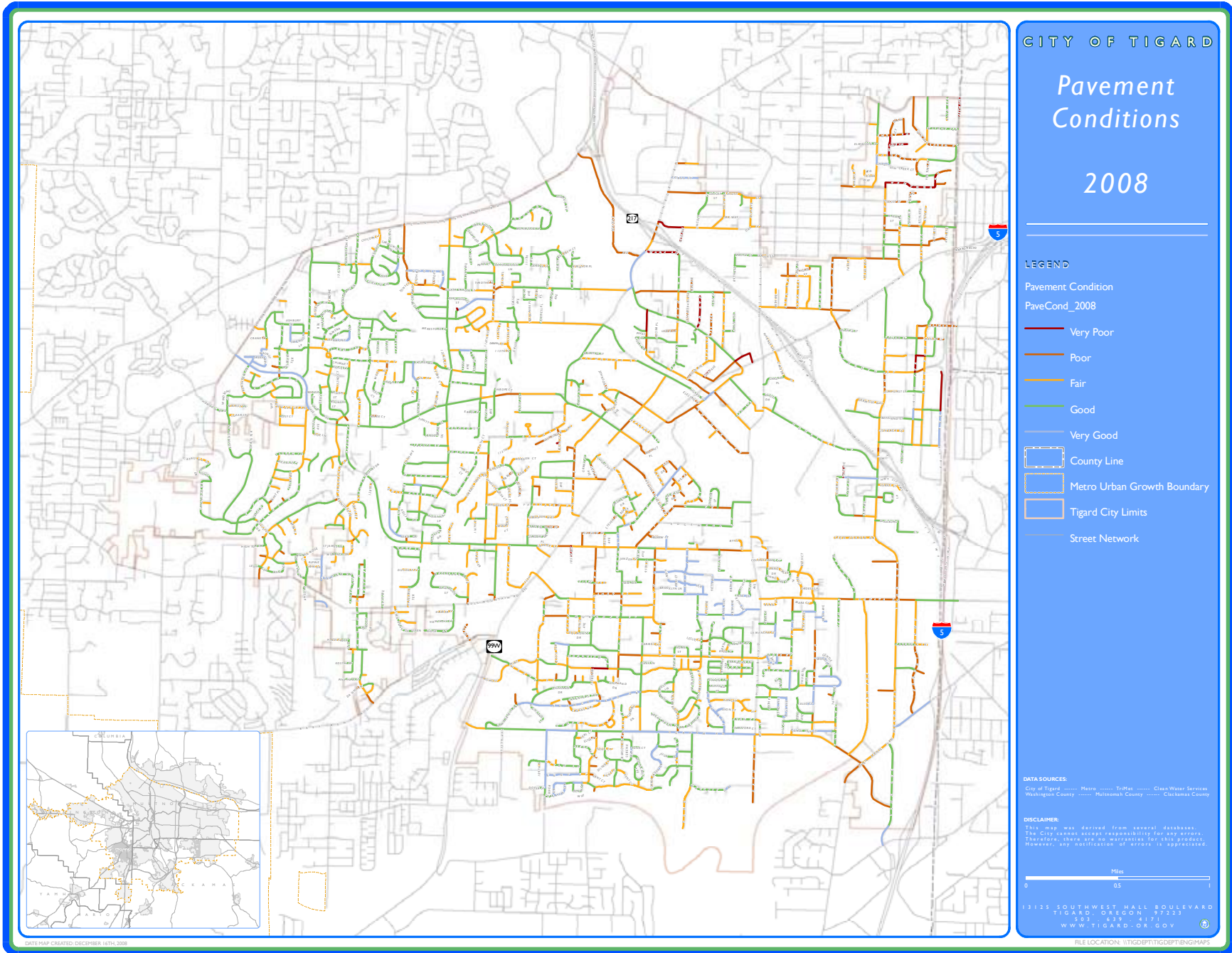
Previous Task Force Members

- Marty Anderson
- Steve Clark
- Gretchen Buehner
(Planning Commission Representative)
- Cam Gilmour
- Ralph Hughes
- Paul Owen
- Basil Christopher
- Beverly Froude
- Joe Schweitz
- Nick Wilson *(Council President)*
- Oregon Grocery Association:
 Joe Gilliam (Primary)
 Dan Floyd (Alternate)

A list of previous Task Force meeting minutes (2001–2006) are available on the City of Tigard website.



Appendix



Average Daily Traffic (ADT)

2008 Volume Estimates*

LEGEND

Tigard Street Network

Number of Vehicles per day *

- 55,000 +
- 32,000 - 54,999
- 15,000 - 29,999
- 6,000 - 14,999
- 2,000 - 5,999
- < 2,000

- County Line
- Metro Urban Growth Boundary
- Tigard City Limits

*NOTE: These are estimates based on available traffic counts and our understanding of traffic patterns. There will always be some inaccuracy in estimates and traffic patterns can significantly vary from day to day.

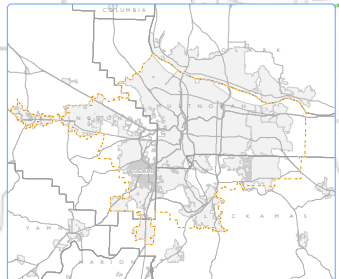
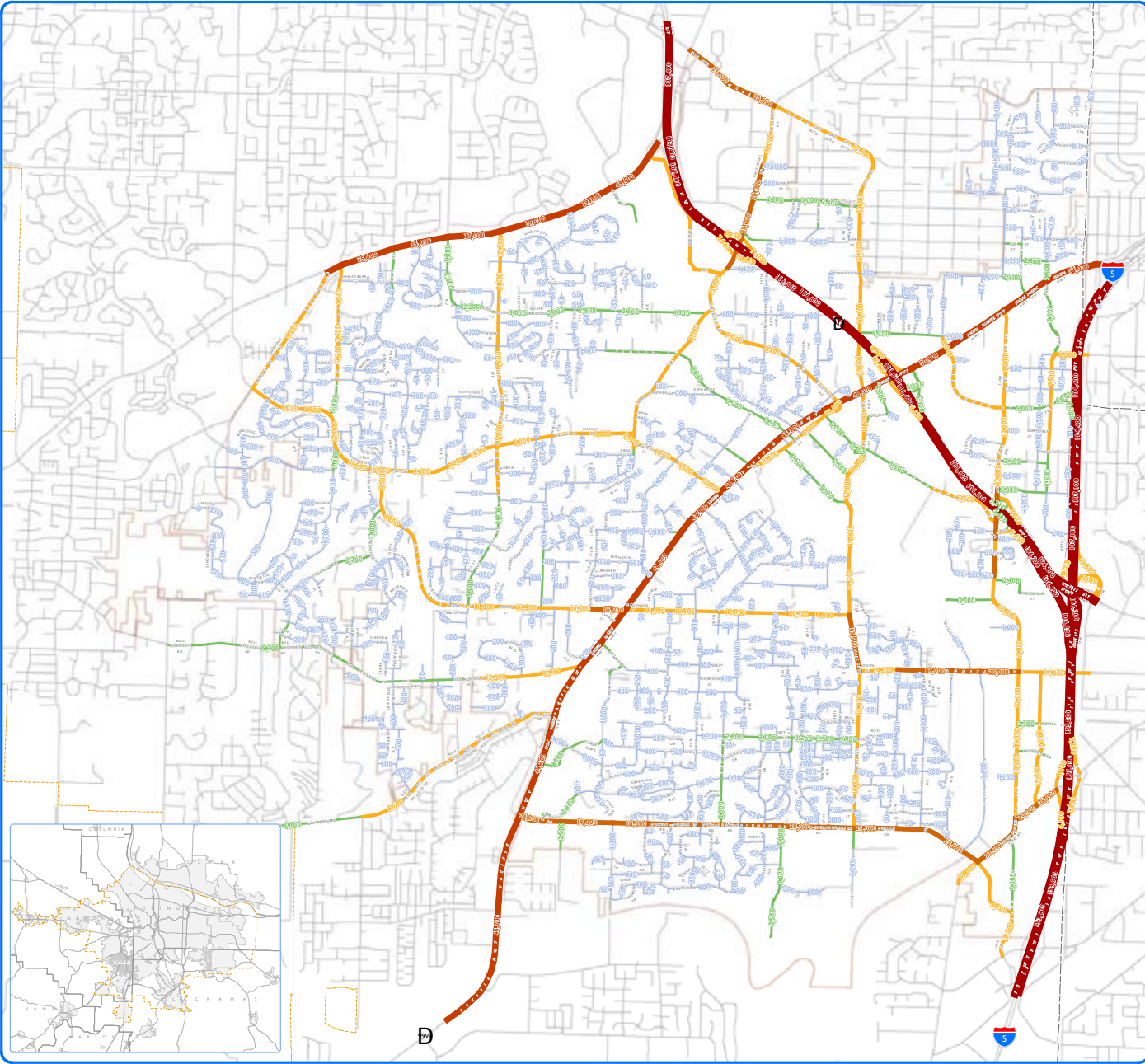
DATA SOURCES: City of Tigard, Metro, TriMet, Clean Water Services, Washington County, Multnomah County, Clatsop County

DISCLAIMER: This map was derived from several databases. The City cannot accept responsibility for any errors. Therefore, users are encouraged to verify data. However, any notification of errors is appreciated.



13125 SOUTHWEST HALL BOULEVARD
TIGARD, OREGON 97223
503.439.4171
WWW.TIGARD-OR.GOV

FILE LOCATION: \\TIGDEPT\TIGDEPT\ENGIN\MAPS

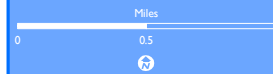


DATE MAP CREATED: DECEMBER 16TH 2008

Street Maintenance Fee Projects 2004 - 2008

Street Maintenance

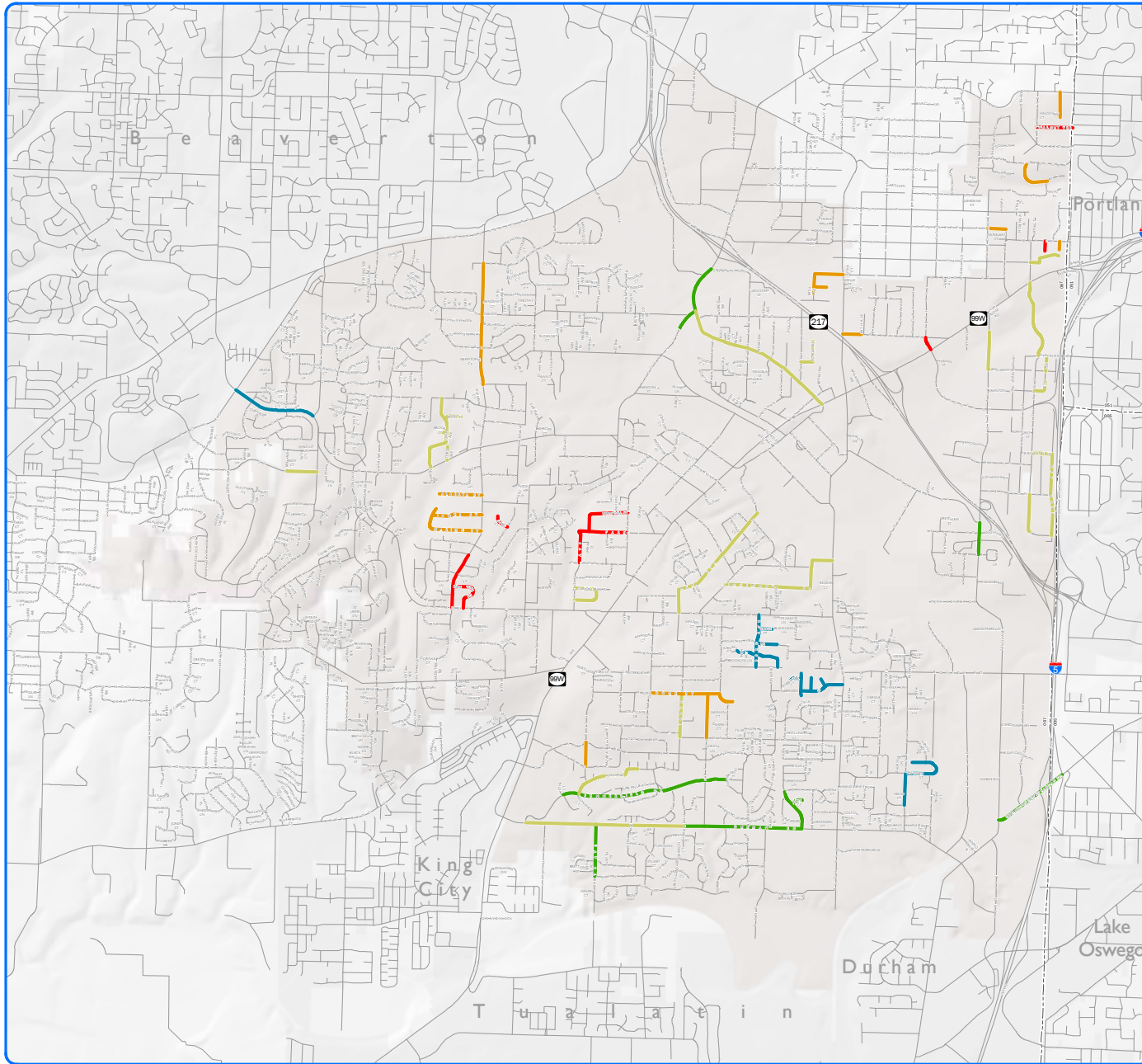
- 2004
- 2005
- 2006
- 2007
- 2008



DATA SOURCES:
City of Tigard
Metro

DISCLAIMER:
This map was derived from several databases. The City cannot accept responsibility for any errors. Therefore, there are no warranties for this product. However, any notification of errors is appreciated.

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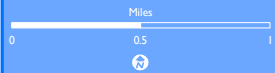
DATE MAP CREATED: NOVEMBER 17TH, 2008

WTIGDEPTITIGDEPTENGMAPSITIGARD_STREET_MAINTENANCE_FEE_PROJECTS 2004-2008 (ANSI).MXD

Tigard Pavement Management 2009 - 2013

Pavement Management Treatment Year / Treatment Type

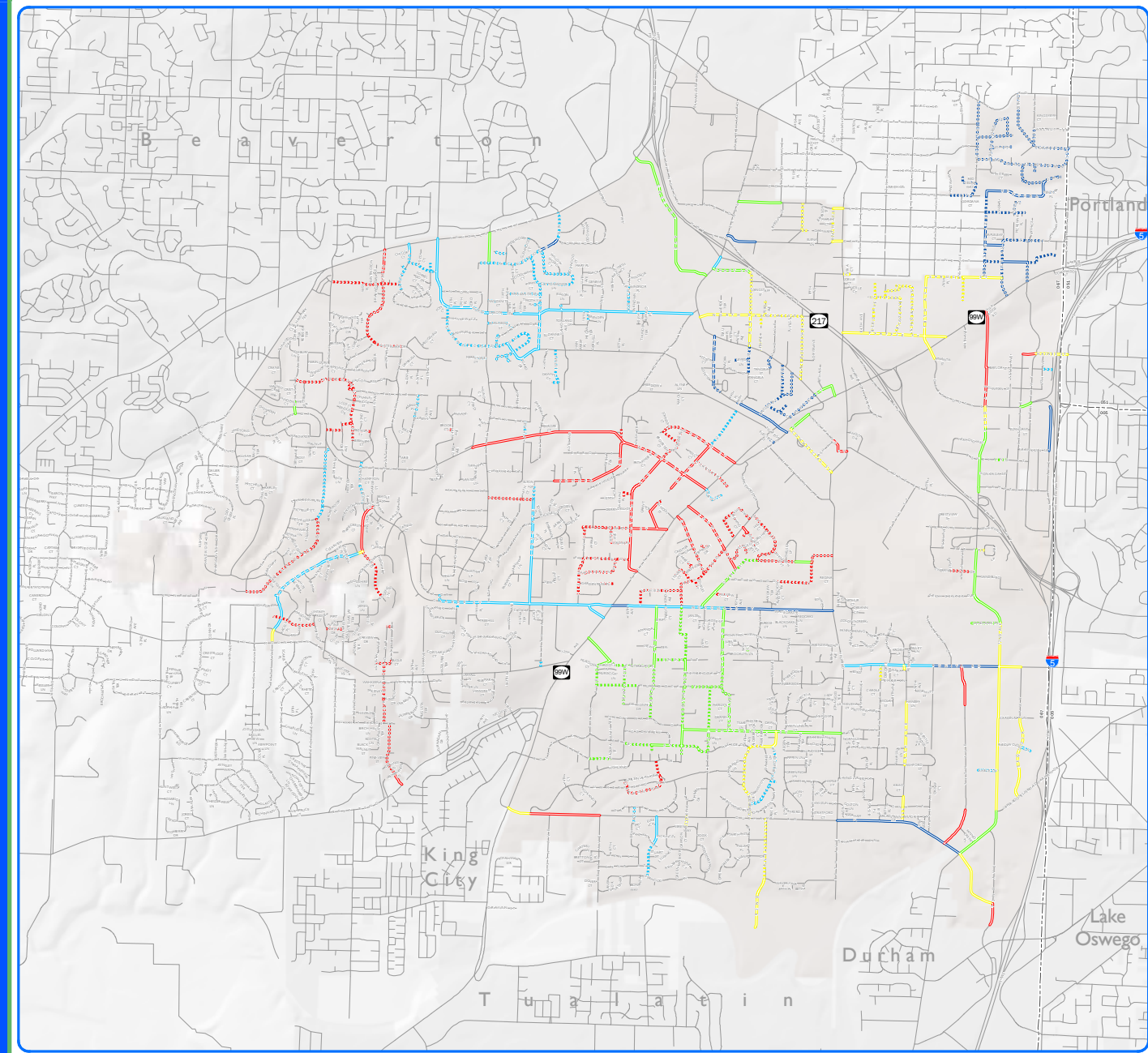
- 2009, Slurry
- 2009, Overlay
- 2010, Slurry
- 2010, Overlay
- 2011, Slurry
- 2011, Overlay
- 2012, Slurry
- 2012, Overlay
- 2013, Slurry
- 2013, Overlay



DATA SOURCES:
City of Tigard
Metro

DISCLAIMER:
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DATE MAP CREATED: NOVEMBER 17TH, 2008

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Pavement Condition Examples

The Pavement Condition Index is a measure of the surface condition and integrity of the pavement. It is expressed as a number from 0 (very bad, essentially gravel) to 100 (essentially perfect). We have compiled these photos to give you a better idea of what the numbers mean and what different levels of pavement condition look like.

New streets start with pavement conditions in the high nineties. Pavement deteriorates over time as weather wears down the top surface, the repeated pressures of vehicle loading (especially from trucks and buses) eventually wears down the pavement structure, and as the ground beneath the pavement surface settles.

For ease of understanding, pavement condition is often classified as follows:

Very Good	85 to 100
Good	70 to 85
Fair	55 to 70
Poor	40 to 55
Very Poor	Less Than 40

Examples of pavement deterioration include:

Rutting – When pavement surface becomes depressed along the wheel paths

Longitudinal Cracking – cracking along the roadway, parallel to the direction of travel

Transverse Cracking – cracking across the roadway, perpendicular to the direction of travel

Alligator Cracking – a combination of longitudinal and transverse cracking that has become so dense it resembles alligator scales

Loss of Fines – when the cohesive material near the top of the pavement wears away, often due to weather or traffic loading

Raveling – (perhaps better called unraveling) – When pieces of aggregate come out of the pavement as it continues to lose its fines

Pumping – when liquids (such as water or liquid asphalt) are drawn to the surface (so it looks like the road is pumping out the liquid)

Some examples of Pavement Condition are on the following pages:



Pavement Condition 93 (Very Good): 108th Avenue south of Durham Road; Paved in 2007.

Smooth surface; No cracks; Smooth ride



Pavement Condition 95 (Very Good): 79th Avenue North of Durham Road; Paved in 2008.

No Cracks; Most of the cohesive material is intact at the top.



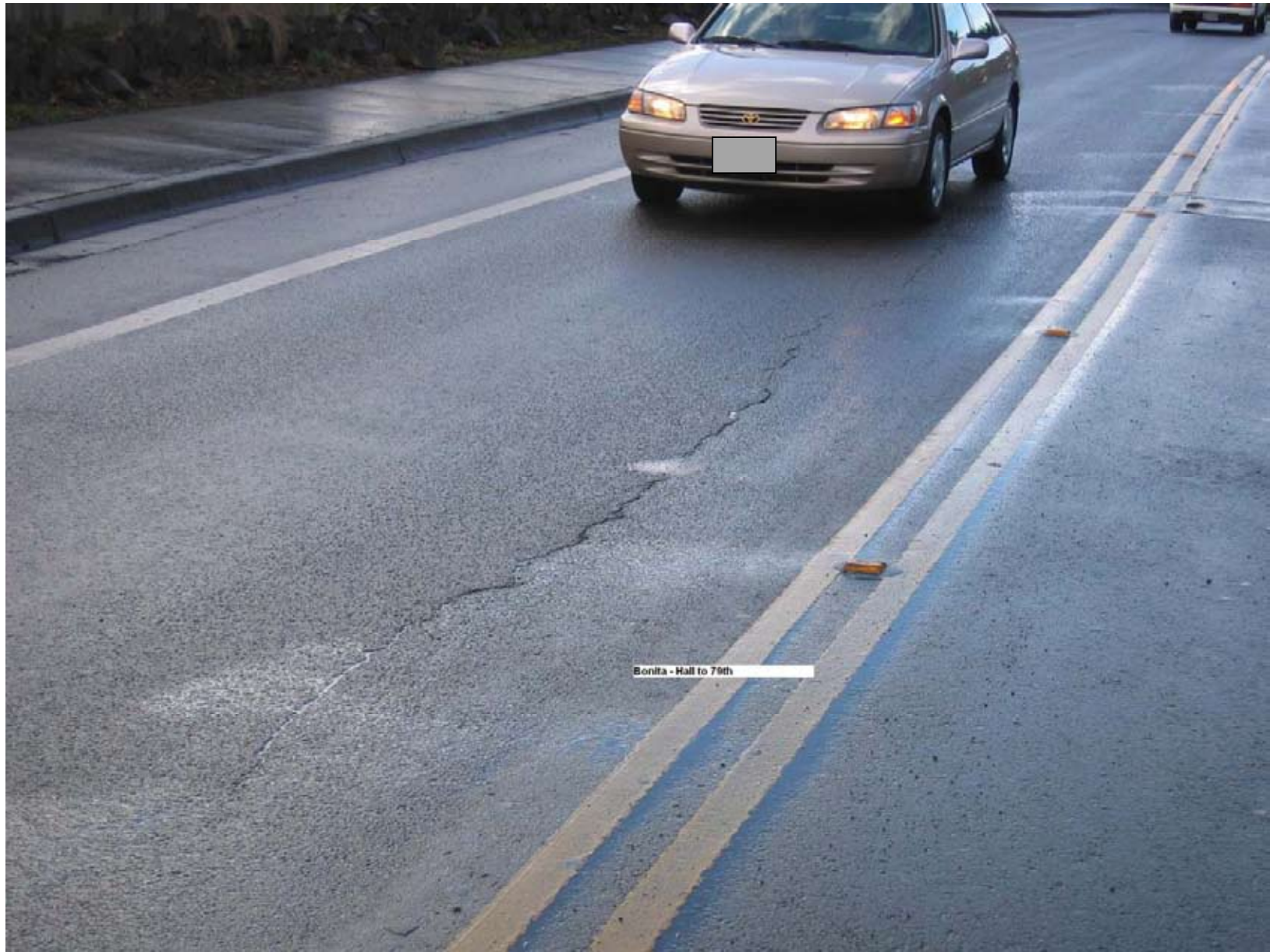
Pavement Condition 78 (Good): Commercial Street between 96th Ave and 97th Ave

Pavement is losing some of its ‘fines’ – the smaller cohesive material at the top that helps hold it together; No cracks yet.



Pavement Condition 72 (Good): Tigard Street near Fanno Creek

Surface roughness shows pavement has lost much of its fines; Some cracks appearing (Note sealant)



Pavement Condition 72 (Good): Bonita Road between Hall Blvd and 79th Ave

Roughness shows pavement is losing some of its fines. Some cracks are appearing.



Pavement Condition 64 (Fair): 72nd Avenue between Redwood Ln and Cardinal Ln

Cracks have become wider, more continuous, and tend to follow the wheel path; Note surface roughness; Some potholes occur



Pavement Condition 52 (Poor): Commercial Street west of Main and 99W Overpass

Cracking has become much more extensive (note crack sealant, and cracks near road center); Soft spots appear as areas of dense cracking



Pavement Condition 42 (Poor): Commercial Street east of Main Street

Cracking has become extensive; This is called 'alligator cracking' because it resembles the back of an alligator.



Pavement Condition 34 (Very Poor): 98th Avenue south of Greenburg Rd

Extensive alligator cracking; Subsurface structural weakness leads to uneven surface



Pavement Condition 20 (Very Poor): Beveland Street 500' east of 72nd Avenue

The patch on the right rates higher, but extensive cracking and subsurface weakness leave the rest of the road in very poor condition

Slurry Seal Example

Slurry seals are typically used on roads with a PCI/OCI in the 70 to 85 range. It applies a finer ‘slurry’ mixture of cohesive asphalt binder with finer sand – sized particles on top of the existing pavement, bringing the existing pavement back to near its original condition, as shown below:



Pavement Treatment Examples

This compilation of photos describes the steps involved in each of the four main pavement maintenance treatments commonly used on city streets:

- 1) **Slurry Seal** (Typically used on good residential streets to keep them in good condition)
- 2) **Asphalt Overlay** (Often used as regular maintenance on busy streets, or to repair fair/poor residential streets)
- 3) **Major Overlay** (Often used on busy streets that have deteriorated into poor condition)
- 4) **Street Reconstruction** (Typically done only when a street's condition is very poor)

Each treatment is described on its own page with the major steps listed and photos describing the key work activities:

Slurry Seal (\$0.20 to \$0.35 per square foot)



Slurry seals are typically used on residential streets in good condition – to keep them in good condition

- 1) Clean street of dirt and debris; Cover manholes, valve covers, and catch basins
- 2) Place Slurry Seal (sand in back of truck is mixed with asphalt emulsion from tanks and laid down in a thin layer by this truck)
- 3) Allow seal to dry (Street must be closed for several hours)

Asphalt Overlay (\$1.25 to \$2 per square foot)



Normal asphalt overlays are typically used for regular maintenance on busy streets, or to repair fair/poor residential streets

- 1) Grind to match curb lines and end joints
- 2) Clean Street of dirt and debris; Cover facilities as necessary
- 3) Place Tack Coat (sticky adhesive material on left)
- 4) Adjust manholes and valve covers to new elevation
- 5) Place Asphalt
- 6) Allow asphalt to cool and set

Major Overlay (Leveling Course plus Tension Fabric plus Pavement Overlay) (\$2.50 to \$4 per square foot)



- 1) Clean Street of dirt and debris, etc.
- 2) Pave leveling course or grind pavement to level
- 3) Grind to match curb lines or catch basins
- 4) Apply Tack Coat



- 5) Place Tension Strength Fabric (to keep old pavement cracks from spreading into new pavement)



- 6) Adjust manholes, valve covers, or driveways to new elevation
- 7) Place Asphalt Overlay over Fabric (Fabric not used on this street)

Major overlays are typically used to repair busy streets in fair or poor condition

Pavement Reconstruction (\$7 to \$15 per square foot) – very expensive; used only on streets in very poor condition



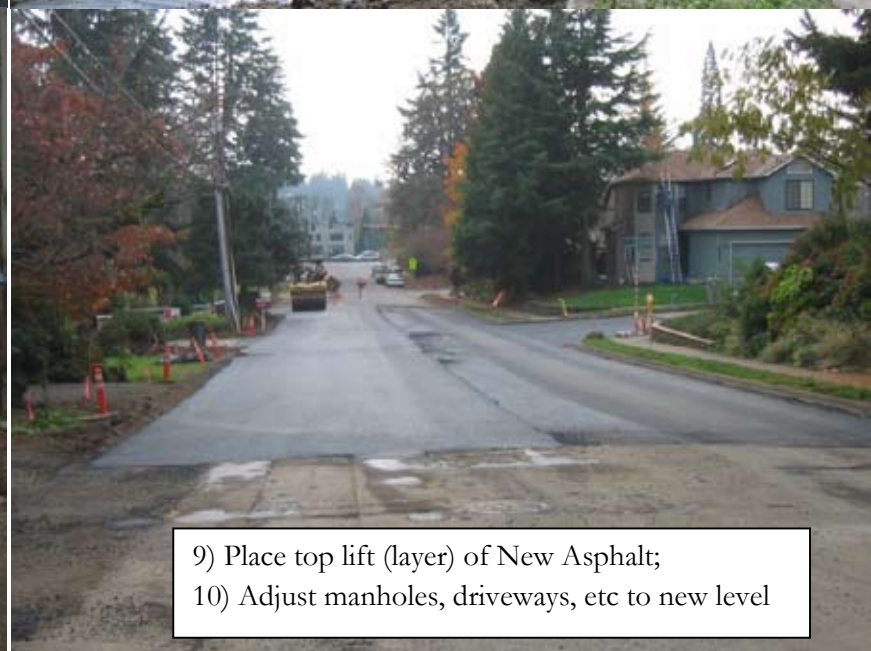
- 1) Remove existing bad pavement and base
- 2) Remove or compact areas of soft soil under pavement
- 3) Work around manholes, catch basins, and valve covers
- 4) Place geotextile fabric



- 5) Backfill with rock aggregate for a solid base
- 6) Compact aggregate in layers
- 7) Place smaller aggregate on top for leveling



- 8) Place first lift (layer) of New Asphalt



- 9) Place top lift (layer) of New Asphalt;
- 10) Adjust manholes, driveways, etc to new level