

Memorandum Date: August 6, 2009
Meeting Date: August 26, 2009

W. S. d.

TO: Board of County Commissioners
DEPARTMENT: Public Works
PRESENTED BY: Celia Barry, Transportation Planning & Traffic
AGENDA ITEM TITLE: DISCUSSION/Lane County Applications for Surface Transportation Program-Urban (STP-U) Funds in the Metro Area for FY 10, and Match

I. MOTION

None requested, information only. The Board is being provided an opportunity to provide input on County safety and preservation projects for the Metropolitan Policy Committee (MPC) representatives.

II. AGENDA ITEM SUMMARY

The Metropolitan Policy Committee (MPC) is scheduled to hold a public hearing in August, and vote on project priorities at their September meeting, for federal STP-U funding, in anticipation of reauthorization of the six-year federal transportation bill. STP-U funds are one piece of a larger funding package. The Board may provide comments on the process and projects being proposed by Lane County in order to inform County MPC representatives before they vote. Since the funding only covers the upcoming fiscal year it is a relatively small amount, and consistent with the adopted Transportation System Plan (TSP), County staff only proposed safety and preservation projects.

The projects County staff put forward for MPC consideration are traffic signal equipment replacements and upgrades, and Overlay of 30th Avenue (I-5 to Spring Boulevard). Only the Signal proposal was successful at the staff level. Proposals are attached.

III. BACKGROUND/IMPLICATIONS OF ACTION

A. Board Action and Other History

During the 2008-2011 STP-U cycle to date Lane County projects received funds totalling approximately \$963,000, for preservation and safety projects. Another recent project was the Delta Highway overlay, that received about \$632,000 of STP-U funds and Lane County matched those funds with approximately \$550,000. Approximately \$726,000 in STP-U funds, and \$382,000 in economic stimulus funds is going toward the Harlow Road/Hayden Bridge Way preservation project, and at this time Lane County estimates its contribution will be approximately \$507,000 for construction costs.

Approximately \$240,000 in STP-U funds is allocated to a safety project, Irving Road at Northwest Expressway Railroad Crossing. This project is in the design phase.

B. Policy Issues

Since this funding only covers the upcoming fiscal year, there are few options with regard to projects that could be proposed. Once the federal transportation bill is reauthorized for multiple years and its funding level is known, staff will be able to return to the Board with additional information and alternatives for future fiscal year priorities, prior to making any

staff proposals. These funds are flexible and can be used for modernization, preservation, or planning activities. They can be used for highway projects or transit projects. A local, non-federal match of at least 10.27% is required.

Lane Transit District did not compete for STP-U funding for the upcoming fiscal year due to its receipt of economic stimulus money. LTD intends to ask for funding in coming fiscal years.

The County Transportation System Plan spells out financial priorities in times of declining revenue. The priorities were established in preparation for these times. The policies prioritize safety and preservation to protect the public investment in the county road system. The County's Road Fund Capital Improvement Program (CIP) also prioritizes safety and preservation due to declining revenues.

C. Board Goals

This decision is related to allocation of Road Fund financial resources through the Capital Improvement Program (CIP). Two goals from the Strategic Plan, page 13, are relevant:

- *Contribute to appropriate community development in the areas of transportation and telecommunications infrastructure, housing, growth management, and land development.*
- *Protect the public's assets by maintaining, replacing or upgrading the County's investments in systems and capital infrastructure.*

D. Financial and/or Resource Considerations

Please also see Policy Issues, above. Substantial reductions in the CIP have been made in recent years following the priorities discussed under Policy Issues and Board Goals, above. The trend towards a maintenance-focused CIP program seems likely even with state transportation funding through HB 2001, which authorized additional registration fees and gas taxes over a phased period.

E. Analysis

Please see the discussion above under policy issues. The proposed projects are safety and preservation projects, consistent with adopted transportation policy. It is also consistent with CIP priorities as adopted in May 2009.

For Statewide Transportation Improvement Program (STIP) priority setting related to state highway projects, MPC acts on transportation funding priorities, and then county staff requests action on these priorities, and rural area priorities, from the Board. In this case, STP-U funds are controlled at the MPO level because of its population size being more than 200,000, making it a federally designated Transportation Management Area. This means that the MPO, based upon action by the MPC, makes the final decision on STP-U funding priorities. The Oregon Department of Transportation (ODOT) and the Oregon Transportation Commission (OTC) cannot rearrange these priorities; so there is no purpose in the Board taking action after MPC. However, County Commissioner comment to County MPC representatives before they vote is appropriate and encouraged.

STP-U monies come from the federal transportation bill that is reauthorized approximately every six years. This round of STP-U discussions is only looking at one fiscal year for the following reason. The federal government has not yet authorized a new federal transportation bill, but the federal fiscal year begins October 2009 and the Metropolitan Planning Organization (MPO) wants to be prepared to accept whatever monies may be available at that time. There is a level of paperwork processing between the MPO and ODOT that must occur before the money can be programmed. Each jurisdiction can carry its allocation forward to combine with additional monies in a future fiscal year, generally for up to three fiscal years.

The MPO is making a conservative estimate of receiving \$1.6 million in STP-U monies for projects, with an additional \$.8 million allocated toward planning and transportation options (alternatives to single occupancy vehicle travel).

On July 23, the staff Transportation Planning Committee (TPC), which makes recommendations to MPC, voted to recommend allocating the \$1.6 million as follows:

Project	Agency	Amount
Arterials & Collectors Slurry Seal	Springfield	\$ 400,000
Traffic Signal Replacements/Upgrades	Lane County	\$ 196,000
Quarry Creek Trail Bridge	Willamalane	\$ 250,000
West Bank Path Extension	Eugene	\$ 800,000
30 th Avenue Overlay/I-5 to Springfield	Lane County	----
Total		\$1.646,000

Lane County's proposal is based upon prioritizing safety with regard to traffic signals, and for 30th Avenue, prioritizing protection of the public investment in the County Road system. Attachments 1 and 2 provide more detail.

With 30th Avenue Overlay proposed for no funding, Lane County staff agreed to support the proposal provided: 1) if additional, federal fiscal year 2010 STP-U money becomes available, it will be directed to the Lane County 30th Avenue Overlay project, and 2) the 30th Avenue Overlay project should be prioritized for future federal fiscal year 2011 STP-U funding.

This is an informational check-in with the Board on the upcoming MPC vote. The Board can discuss the STP-U generally, and provide comments and direction to the county's MPC representatives.

F. Alternatives/Options

This is an informational item and no action is necessary. The Board may choose to take action as to a recommendation on the proposed County projects. The Board may also decide to provide comment to County MPC representatives.

IV. TIMING/IMPLEMENTATION

MPC will be asked to take action on September 10. A hearing will be held August 13.

V. RECOMMENDATION

Not applicable.

VI. FOLLOW-UP

Not applicable.

VII. ATTACHMENTS

1. Signal Replacement and Upgrade Proposal
2. 30th Avenue Overlay/I-5 to Spring Blvd.

APPLICATION FOR CENTRAL LANE MPO FY2010 STP-U FUNDS PROJECT DEVELOPMENT, PRESERVATION, MODERNIZATION

July, 2009

(NOTE: Draft applications due to Paul Thompson by 5:00 PM July 20)

Date of this Application July 20, 2009 Contact Person Celia Barry

A. Background Information

1. Lead Agency: Lane County

2. Project Title: Traffic Signal Upgrades

3. STP-U Project Category (circle/mark one): Preservation Modernization Project Dev.

PLEASE NOTE: IF DESIRED, § 4, 7 & 8 MAY BE ADDRESSED TOGETHER IN ONE NARRATIVE ATTACHMENT

4. Project Description: Include in description how activities address regional priorities
Attach additional information, if applicable.

This proposal includes preservation and modernization of traffic signal equipment on nine signals, and 52 specialty sign replacements, at 15 intersections on county roads in the MPO area. Attached is a detailed list by road name and intersection (**Attachment 1**), and item and cost (**Attachment 2**). **Attachment 3** is a locator map. The signal replacements and upgrades include controllers, video processors, a signal pole and mast arm, pedestrian heads, signal heads, back plates, cabling, and software upgrades. Four traffic signals will include Opticom equipment that communicates with emergency vehicles to automatically change the light so that emergency vehicles have the right-of-way. The sign replacements include 52 signs of special retro-reflectivity sheeting that will replace electrically powered signs currently on location. The higher degree of reflectivity (over other street signs) is necessary because the signs are overhead and out of headlight range.

Traffic signals are expected to operate continuously on a 24-hour, 7-day basis. These proposed improvements will help ensure signals are always in operation and meeting modern traffic safety needs. This project benefits freight and multiple transportation modes including motor vehicle, pedestrian, bicycle, and transit. It reduces congestion and improves air quality by promoting efficient and orderly mobility.

The signs that will be replaced with non-electrical reflective sheeting will reduce the use of electricity, which reduces costs and environmental impacts.

The roads on which signals and signs are to be replaced all have significant usage, as demonstrated by the fact that they met warrants for the signals. Attachment 1 shows road functional class and the most recent traffic counts/year taken.

5. Screening/Eligibility Criteria: Indicate Yes/No for each; Provide details as needed

- a) **Listed in, or consistent with, financially constrained RTP, or able to be added to RTP during project time frame Yes**
- b) **Ability to utilize funds in FY requested Yes**
- c) **For eligible purpose under Federal guidelines**
See <http://www.lcog.org/documents/meetings/mpc/0609/MPC5f-Attachment1-FederalGuidelinesforSTP-U.pdf>
- d) **Can provide minimum required matching funds (10.27% of project total) Yes**
- e) **Sufficient identified funding to complete project/phase Yes**

6. Project Cost Estimate: Indicate STP-U Funds Requested, Other Funding

FY2010 STP-U funds requested for this project	\$196,157
Other funding (also list type/source of funds, e.g. federal, state, local, etc.)	\$
Other funding #2 county match	\$ 22,451
Total Cost Estimate	\$218,608

(Note: Total non-federal funding must meet minimum match requirement of 10.27% of total project cost – 11.45% of federal dollars)

7. Other Project Information: To the extent *not* discussed in the project description, address the following items from the July, 2006 CLMPO STP-U Process: Preservation, Project Development and Modernization Activities diagram.

<http://www.lcog.org/documents/meetings/mpc/0609/MPC5f-Attachment3-STP-UModPres.pdf>

a. Description of need or problem addressed

The signals and signs have either surpassed their design life or will be enhanced by upgrades to increase safety features. See also #4 above.

b. How project addresses MPO's regional priorities

Please see #4 above.

c. Assessment of magnitude of potential STP-U "overhead cost"

Use of STP funds will mean that this project will be contracted through ODOT. Projects of this kind, involving equipment replacement and upgrades are straightforward, minimizing the complexity of review.

d. Specific benefits of project

Please see #4 above.

e. "Cost" of not doing activity/project (or description of opportunity lost)

Replacement and upgrades of these signal and specialty sign components is recommended by the County traffic engineer and electrical engineer. Not making the improvements could result in signal failure and sign non-reflectivity, a fundamental breach in the traffic safety system. Repair would then be urgently necessary and more costly.

f. Expected outcomes & deliverables

The expected outcome is traffic signals and specialty signs in working order, providing increased safety and minimizing future maintenance costs.

8. Project Technical Information: To the extent not previously discussed, provide technical information for the proposed project that will assist in the staff evaluation of the application. Sample technical considerations include:

- **Safety Enhancement** Project will address existing safety issue. Identify safety issue (sight line, design element, deterrent to bicycling, etc.). If available, cite safety statistics (crash rate, etc.).
- **Urban Standards** Project brings facility to current urban design standard. Project adds urban design elements where current elements do not exist or are substandard, such as sidewalks, pedestrian crossing and/or transit stop improvements, bike facilities, storm water facilities, lighting, etc.
- **Preservation** Project provides long-term maintenance and preservation of the existing system. Demonstrate preservation need (for example, condition rating).
- **Multiple Modes** Identify how project will benefit more than one mode or purpose (i.e., benefits roadway & transit, benefits bicycle & roadway users, or benefits roadway & identified freight route).
- **Congestion Reduction** Project reduces congestion through provision of additional capacity or critical link or other means. Identify existing congested conditions that project will address. Identify modeled or projected impact on congestion.
- **Increase Alt. Mode Share** Identify how project will increase use of alternative modes (non-single occupant vehicle—SOV—use such as transit, bicycle, pedestrian).
- **Usage** Identify existing or projected daily traffic volume (roadway), ridership (transit) or other measure of use of facility. Demonstrate significance of project to the regional system.
- **Freight** Identify project benefits to freight system/movements.
- **Air Quality** If applicable, identify air quality benefits of project.

PLEASE SUBMIT APPLICATION ELECTRONICALLY TO PAUL THOMPSON, LCOG pthompson@lcoog.org

Cost Estimate
MPO Area Signal and Specialty Sign Replacement
STP-U Proposal 1 of 2, Lane County

Attachment 2

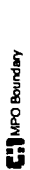
Prepared by Shashi Bajracharya, PE, Sr. Engineering Associate
July 2009

Item	Qty	Unit Price	Total Cost
Controller Upgrade	7	\$1,900	\$13,300
Video Processor	4	\$1,400	\$5,600
Sign Replacement			
Left-turn Yield	2	\$50	\$100
Left-turn	12	\$50	\$600
Street Name	40	\$250	\$10,000
Pole and Mast Arm	1	\$20,000	\$20,000
Ped Head	16	\$600	\$9,600
Signal Head			
Doghead	2	\$1,800	\$3,600
12*12*12	17	\$800	\$13,600
Back Plate	7	\$50	\$350
Opticom upgrade	11	\$3,000	\$33,000
Miscellaneous			
Street Lighting (Ballast Replacement)	36	\$250	\$9,000
Ballast Cabinets	10	\$750	\$7,500
Networking	LS		\$8,200
	Subtotal		\$134,450
Contingencies	20%		\$26,890
	Subtotal		\$161,340
PE	20%		\$32,268
Software Replacement			\$25,000
	Total		\$218,608

MPO Area Signal and Specialty Sign Replacements and Upgrades

by Road Intersection

- 1 River Road / Spring Creek Drive
- 2 River Road / Lymbrook Drive
- 3 River Road / River Loop #2
- 4 River Road / Irvington Drive
- 5 River Road / River Loop #1
- 6 NW Express / Irvington Drive
- 7 Prairie Road / Irving Road
- 8 Maxwell Road / Grove Street
- 9 Maxwell Road / Prairie Road
- 10 30th Ave / Eldon Schaefer Drive
- 11 Hayden Bridge Road / Harvest Lane
- 12 Centennial Blvd / Aspen St
- 13 Hayden Bridge Way / 5th St
- 14 Hayden Bridge Road / 19th St



MPO Boundary



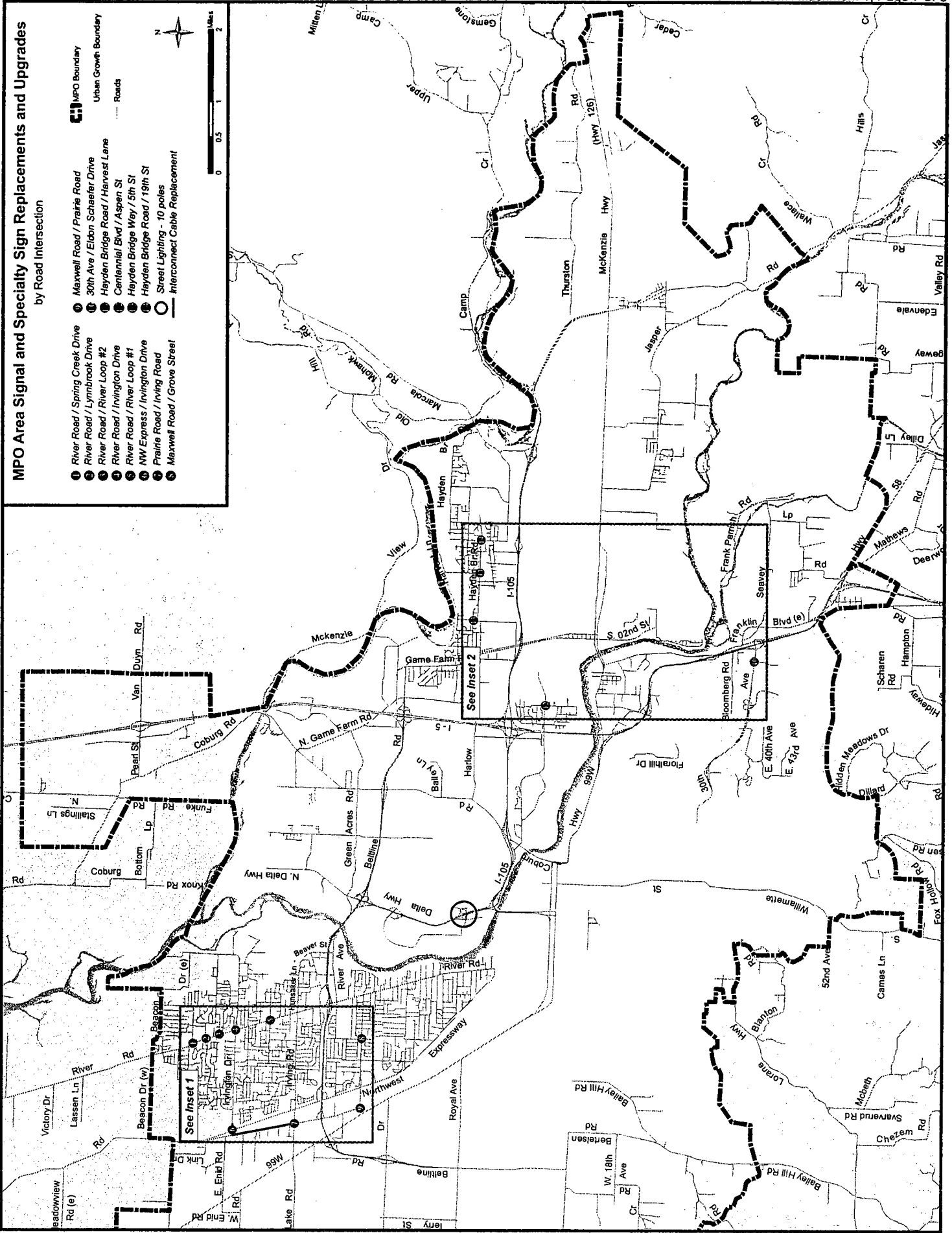
Urban Growth Boundary



Roads



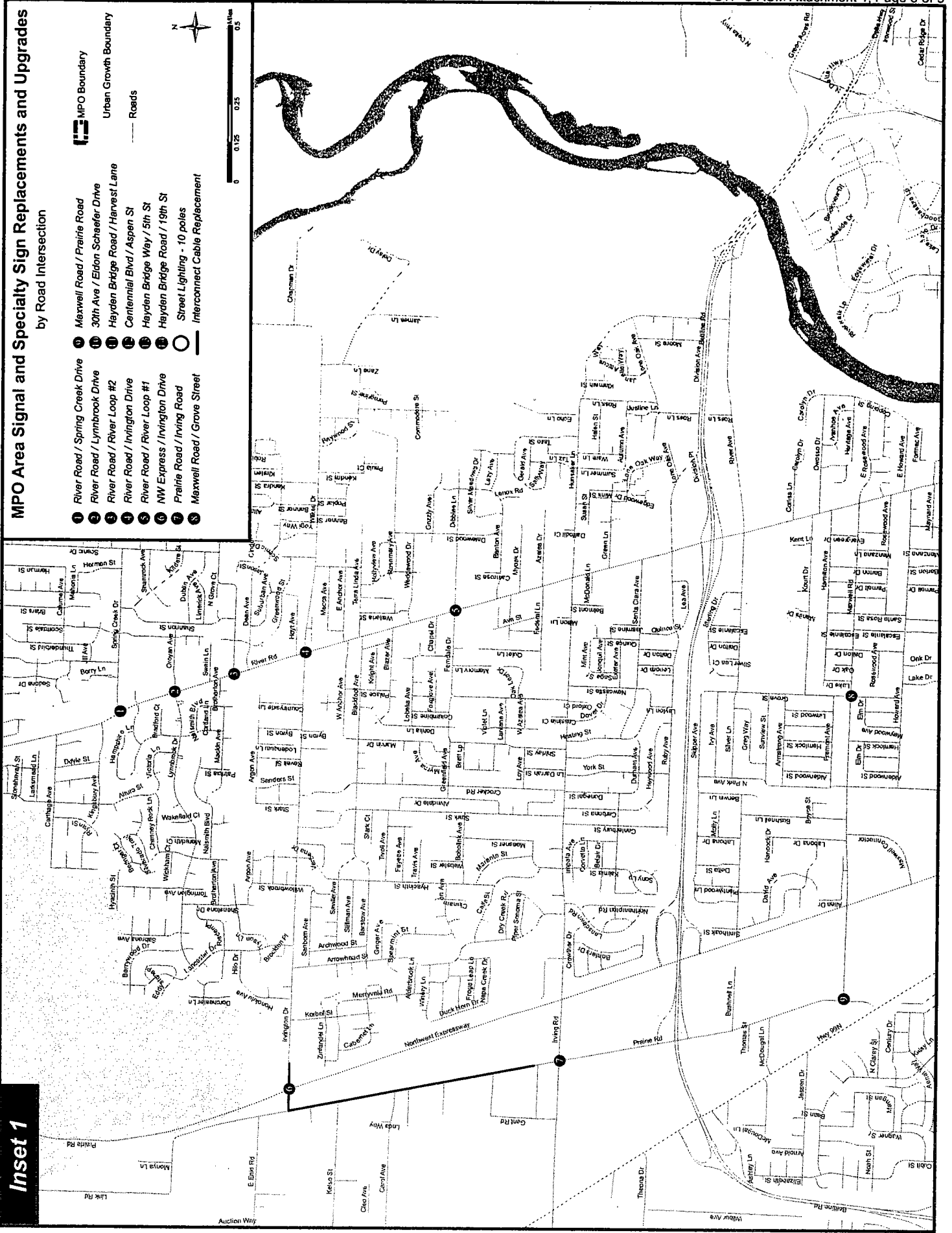
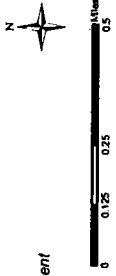
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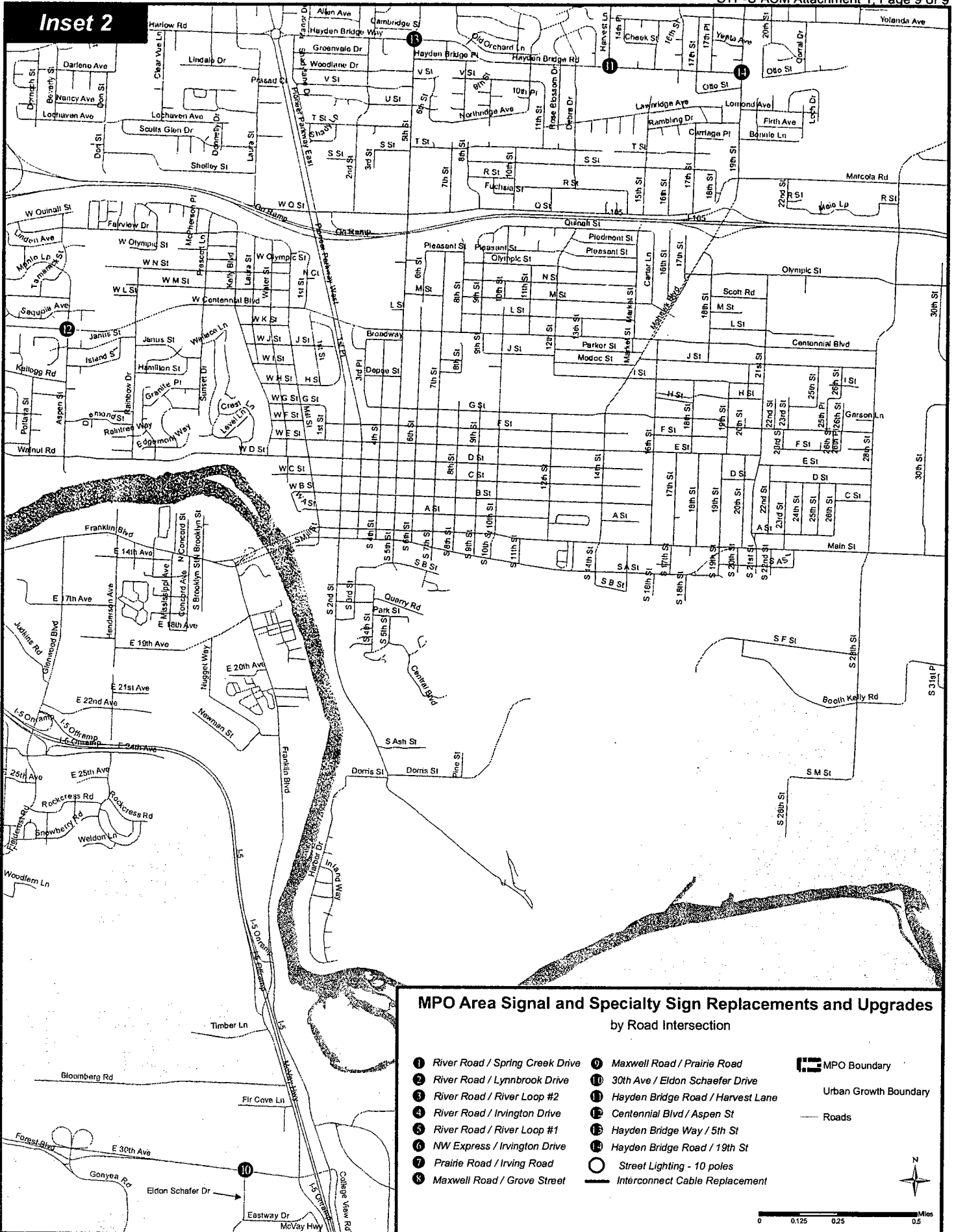
Inset 1

MPO Area Signal and Specialty Sign Replacements and Upgrades by Road Intersection

- 1 River Road / Spring Creek Drive
 - 2 River Road / River Loop #2
 - 3 River Road / Irvington Drive
 - 4 River Road / River Loop #1
 - 5 NW Express / Irvington Drive
 - 6 Prairie Road / Irving Road
 - 7 Maxwell Road / Grove Street
 - 8 Maxwell Road / Prairie Road
 - 9 30th Ave / Eldon Schaefer Drive
 - 10 Hayden Bridge Road / Harvest Lane
 - 11 Centennial Blvd / Aspen St
 - 12 Hayden Bridge Way / 5th St
 - 13 Hayden Bridge Road / 19th St
 - 14 Street Lighting - 10 poles
 - 15 Interconnect Cable Replacement
- MPO Boundary**
- Urban Growth Boundary**
- Roads**



Inset 2



APPLICATION FOR CENTRAL LANE MPO FY2010 STP-U FUNDS PROJECT DEVELOPMENT, PRESERVATION, MODERNIZATION

July, 2009

(NOTE: Draft applications due to Paul Thompson by 5:00 PM July 20)

Date of this Application July 20, 2009 Contact Person Celia Barry

A. Background Information

1. Lead Agency: Lane County

2. Project Title: 30th Avenue Overlay (I-5 to Spring)

3. STP-U Project Category (circle/mark one): Preservation Modernization Project Dev.

PLEASE NOTE: IF DESIRED, § 4, 7 & 8 MAY BE ADDRESSED TOGETHER IN ONE NARRATIVE ATTACHMENT

4. Project Description: Include in description how activities address regional priorities
Attach additional information, if applicable.

The 30th Avenue Overlay (I-5 to Spring) is a 2.1-mile, pavement preservation project proposed to provide an overlay of the asphalt concrete pavement. The project would provide up to a 3-inch overlay with selected areas of base repairs. 30th Avenue varies from 78' to 80' in width. It is a 4-lane minor arterial with 10'-wide shoulders. **Attachment 1** shows a map and typical section.

30th Avenue provides access to Lane Community College (LCC), a regional destination, and to I-5 from south Eugene. It supports freight coming and going to I-5 and Eugene, and is heavily used by transit, other motorists, and bicyclists. At the entrance to LCC average daily traffic was between 15,000-20,000 according to counts taken in 2007.

Lane County inspects and updates its pavement inventory using a computerized Pavement Management Program combined with visual inspections. The pavement condition index (PCI) is currently rated at 64 out of 100. The road is showing signs of distress and the County Engineer has determined that an overlay is due. If corrective action is not taken in the very near future then repair costs begin to increase exponentially. Studies show that every additional dollar spent on preventive maintenance treatments saves up to \$10 in future rehabilitation costs (see **Attachment 2, page 1**). **Attachment 2, page 4** shows pictures of the stages of pavement distress that signify a preservation improvement is warranted, while **Attachment 3** shows actual pavement distress, photographed on 30th Avenue on approximately August 3, 2009.

Timely maintenance extends the useful life of pavement and reduces delays. It also promotes safety by eliminating rough road sections that drivers cannot anticipate. A higher quality ride, higher mobility, reduced congestion, and reduced air pollution all result from the smoother surface. Overlay projects are also more efficiently completed than reconstruction, so traffic delays are minimized when roads are preserved in a timely manner.

5. Screening/Eligibility Criteria: Indicate Yes/No for each; Provide details as needed

- a) **Listed in, or consistent with, financially constrained RTP, or able to be added to RTP during project time frame** Yes
- b) **Ability to utilize funds in FY requested** Yes
- c) **For eligible purpose under Federal guidelines**
See <http://www.lcog.org/documents/meetings/mpc/0609/MPC5f-Attachment1-FederalGuidelinesforSTP-U.pdf>
- d) **Can provide minimum required matching funds (10.27% of project total)** Yes
- e) **Sufficient identified funding to complete project/phase** Yes

6. Project Cost Estimate: Indicate STP-U Funds Requested, Other Funding

FY2010 STP-U funds requested for this project	\$442,000
Other funding (also list type/source of funds, e.g. federal, state, local, etc.)	\$
Other funding #2 County match	\$435,000
Total Cost Estimate	\$877,000

(Note: Total non-federal funding must meet minimum match requirement of 10.27% of total project cost – 11.45% of federal dollars)

7. Other Project Information: To the extent *not* discussed in the project description, address the following items from the July, 2006 CLMPO STP-U Process: Preservation, Project Development and Modernization Activities diagram.

(<http://www.lcog.org/documents/meetings/mpc/0609/MPC5f-Attachment3-STP-UModPres.pdf>)

a. Description of need or problem addressed

Please see #4 above.

b. How project addresses MPO's regional priorities

Please see #4 above.

c. Assessment of magnitude of potential STP-U "overhead cost"

Use of STP funds will mean that this project will be contracted through ODOT. Preservation projects are the simplest kind of project that can be contracted through the ODOT process and minimize the complexity of review.

d. Specific benefits of project

The benefits of this project will be better level of service in terms of riding quality, higher mobility, fuel efficiency for vehicles, and safety due to a rehabilitated roadway surface. Air quality will improve. Preservation projects are more economical than rehabilitation and reconstruction that would be necessary if preservation is delayed. Preservation can be completed in a much shorter period therefore reducing disruption to the traveling public's activities.

e. "Cost" of not doing activity/project (or description of opportunity lost)

The overlay is recommended by county engineering and maintenance staff in order to avoid higher costs in the future. It is expected that \$1 spent now will save up to \$10 in future costs.

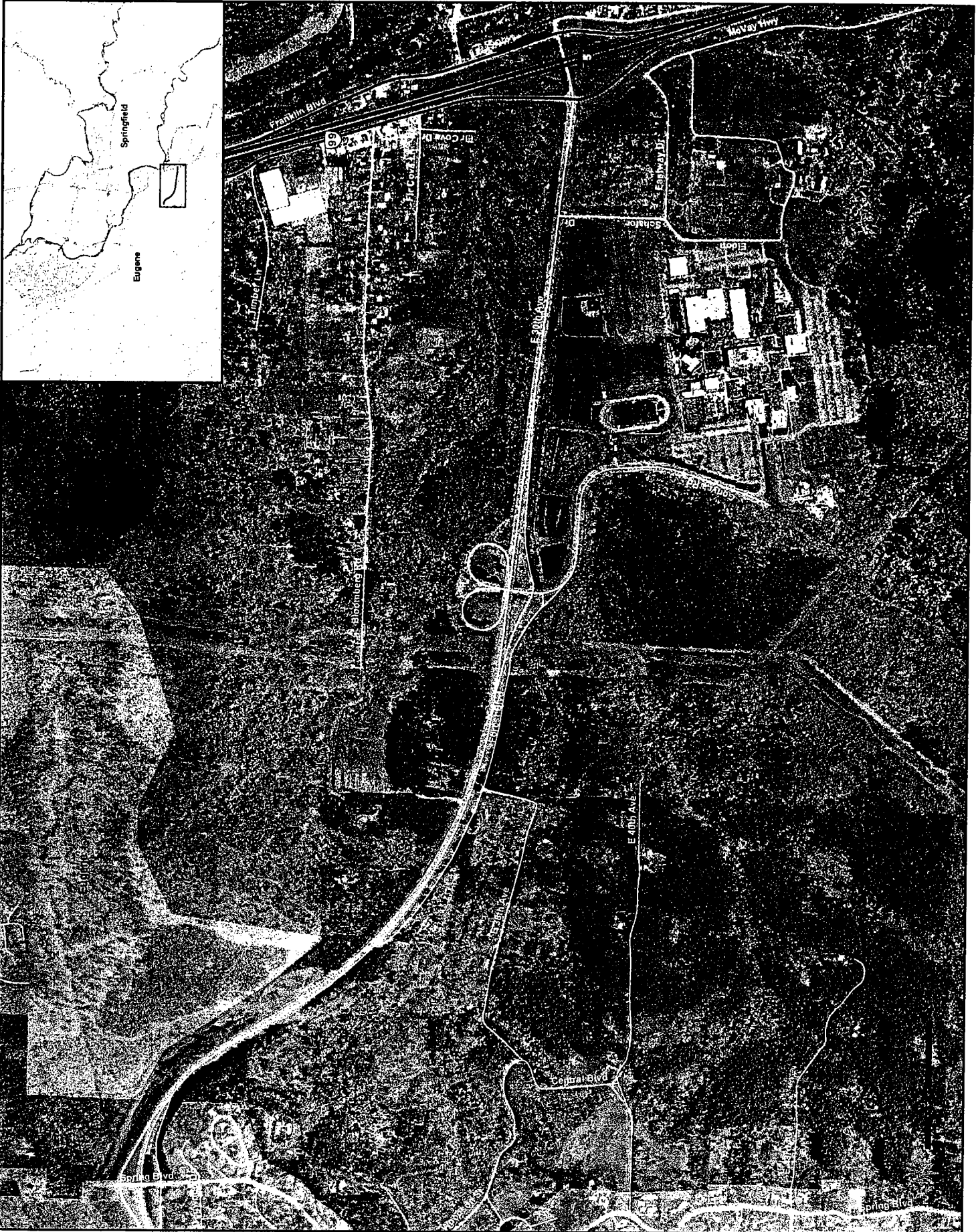
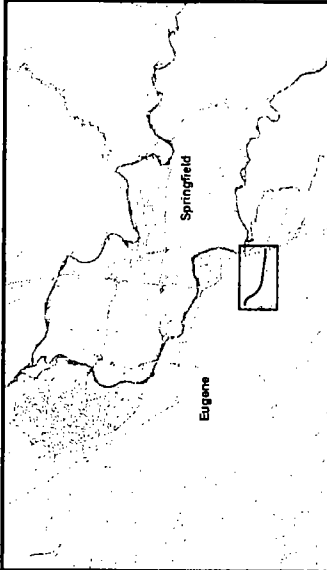
f. Expected outcomes & deliverables

The expected outcome is a rehabilitated pavement surface that will provide a safe and efficient roadway for the intermediate future.

8. Project Technical Information: To the extent not previously discussed, provide technical information for the proposed project that will assist in the staff evaluation of the application. Sample technical considerations include:

- **Safety Enhancement** Project will address existing safety issue. Identify safety issue (sight line, design element, deterrent to bicycling, etc.). If available, cite safety statistics (crash rate, etc.).
- **Urban Standards** Project brings facility to current urban design standard. Project adds urban design elements where current elements do not exist or are substandard, such as sidewalks, pedestrian crossing and/or transit stop improvements, bike facilities, storm water facilities, lighting, etc.
- **Preservation** Project provides long-term maintenance and preservation of the existing system. Demonstrate preservation need (for example, condition rating).
- **Multiple Modes** Identify how project will benefit more than one mode or purpose (i.e., benefits roadway & transit, benefits bicycle & roadway users, or benefits roadway & identified freight route).
- **Congestion Reduction** Project reduces congestion through provision of additional capacity or critical link or other means. Identify existing congested conditions that project will address. Identify modeled or projected impact on congestion.
- **Increase Alt. Mode Share** Identify how project will increase use of alternative modes (non-single occupant vehicle—SOV—use such as transit, bicycle, pedestrian).
- **Usage** Identify existing or projected daily traffic volume (roadway), ridership (transit) or other measure of use of facility. Demonstrate significance of project to the regional system.
- **Freight** Identify project benefits to freight system/movements.
- **Air Quality** If applicable, identify air quality benefits of project.

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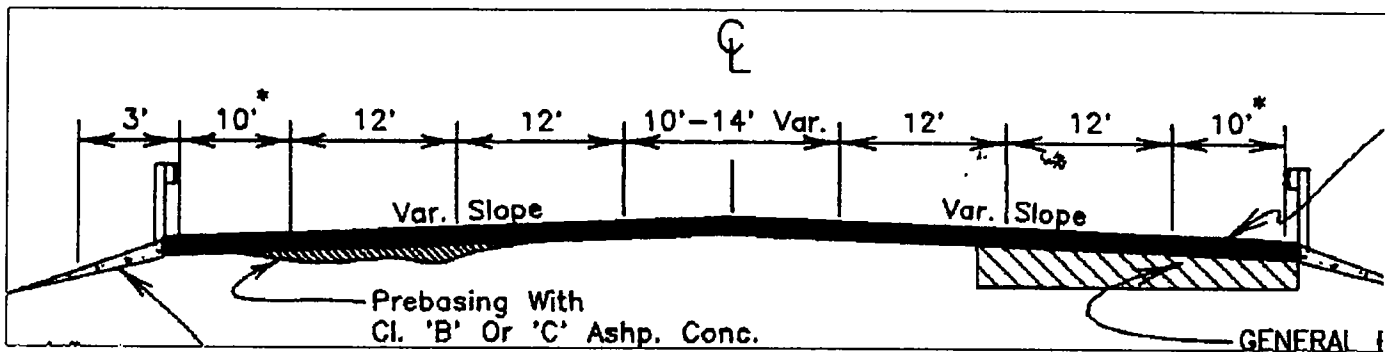
BARRY Celia

From: FIELDS Phil
Sent: Monday, July 20, 2009 9:06 AM
To: BARRY Celia
Subject: RE: 30th

Attachments: Picture (Device Independent Bitmap)

Good morning Celia,

30th Avenue, from I-5 to Spring Boulevard, has a paved surface width of 78-82 feet. The striping is modified to accommodate four 12' travel lanes, a 10'-14' painted median divider (12' left turn refuge between I-5 and Eldon Schaeffer), and 10' shoulders. A typical section is shown below. The asterisk on the shoulder dimension indicates wider tapering shoulders at the Spring Boulevard ramps.



Please let me know if you need more info.

Phil

-----Original Message-----

From: BARRY Celia
Sent: Friday, July 17, 2009 4:44 PM
To: FIELDS Phil
Subject: 30th

Hi Phil,

Would you please tell me the number of lanes and width of the shoulders on 30th early on Monday (I-5 to Spring).
 Thanks.

Celia Barry, Manager
 Lane County Public Works Transportation Planning
 3040 N. Delta Hwy.
 Eugene, OR 97408
 541.682.6935



Oregon Transportation at the CrossRoads

Maintenance and Preservation

What exactly is maintenance and preservation? The two words are NOT synonymous. Today we'll start with preservation. What is it?

"Pavement preservation is a planned system of treating pavements to maximize their useful life.

"The most obvious benefit of pavement preservation is the extension of the life of the pavement. Other benefits of a pavement preservation program are:

- **Lower costs over time.** Studies show every additional dollar spent on preventive maintenance treatments saves up to \$10 in future rehabilitation costs.
- **More predictable costs.** If you schedule your treatments and keep your pavements maintained, you should be better able to predict and plan future costs.
- **Fewer premature pavement failures.** Many premature pavement failures are caused by pavement damage that goes untreated, such as water seeping into cracks.
- **Better condition pavements.** Scheduled monitoring and pavement treatments keep pavements in better overall condition than random or insufficient maintenance.
- **Reduced user delays and user costs.** The more extensive damage a pavement has, the longer drivers will be delayed due to construction. Pavements that are in good condition are also easier on a vehicle's daily wear and tear.
- **Better utilization of resources.** Regularly scheduling treatments allows better use of available resources, and planning for those you may need (such as contractors, equipment, etc.).
- **A happier driving public.** Drivers will get to their destinations on time over safe, well-maintained roads."

Examples of two types of preservation projects are slurry sealing and chip sealing and asphalt overlays. Slurry seals preserve the asphalt on city streets for 5-6 years, thereby extending the amount of time before a more extensive preservation project, such as an overlay, is needed. The same is true for a chip seal on a county road. Overlays extend the life of a road/street by about 20 years.



Oregon Transportation at the CrossRoads

Maintenance and Preservation

Now that we're all clear on what "preservation" is, let's turn our attention to "maintenance."

Maintenance is vital for maintaining the mobility in the system. The public does not see much of this work being accomplished. However, the public and the business community quickly become upset if the roads they use are not maintained or repairs made in a timely manner. These important services, necessary for the safety and well-being of Oregonians, include:

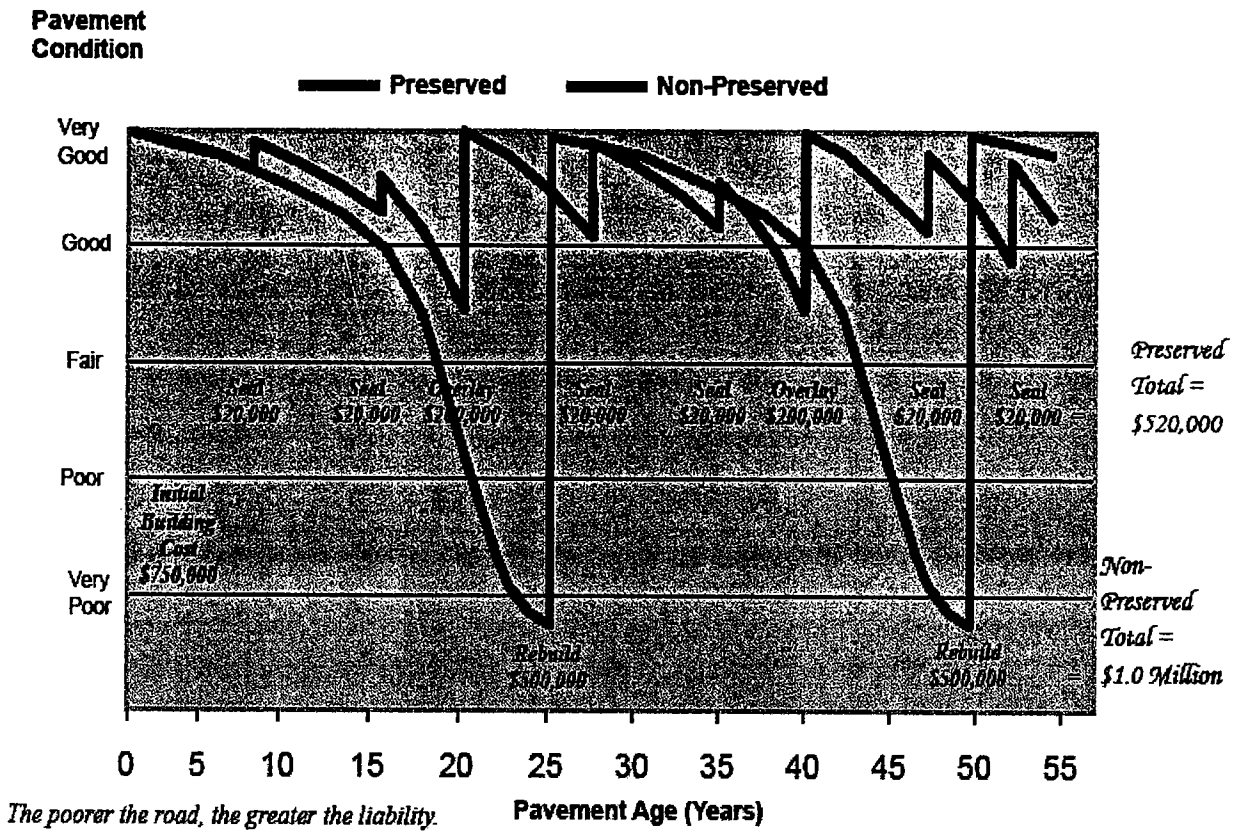
- Crack sealing
- Pot hole repair
- Signs and pavement striping
- Maintaining traffic signals
- Roadway drainage ditching and storm drain maintenance
- Repairing guard rails and other safety features
- Bridge maintenance and repairs
- Clearing roadside vegetation for signs and other safety visibility
- Sweeping streets
- Grading gravel roads
- Responding quickly to storms and natural disasters

Maintenance and preservation work hand-in-hand to keep the users of the seamless system of highways, roads and streets moving.



Oregon Transportation at the CrossRoads
Maintenance and Preservation

**Preserved vs Non-Preserved Road
 Cost per Mile for 2 Lane Road Over 55 years**



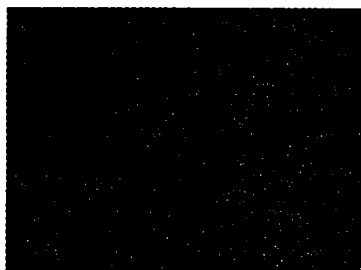
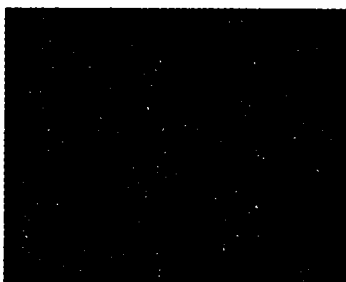


Oregon Transportation at the CrossRoads

Maintenance and Preservation

Various factors, such as traffic and weather, cause the preliminary breakdown of the pavement surface.

The first sign of surface breakdown is the appearance of cracks. Cracks allow moisture to seep down under the surface to the street's foundation, causing more damage to the street structure.



The next stage of deterioration is a system of "alligator cracks." This is a critical point in the life-cycle of pavement because the street foundation is beginning to collapse. In high traffic areas, the deterioration can progress more quickly at this stage.

Eventually, alligator cracks turn into potholes, thereby signaling that the surface has failed.



If a highway/road/street has gone through the whole life-cycle without any preventive measures, the only action that can be taken is the management of immediate issues, such as pothole repairs, and eventually conducting an expensive reconstruction of the roadway.



Oregon Transportation at the CrossRoads

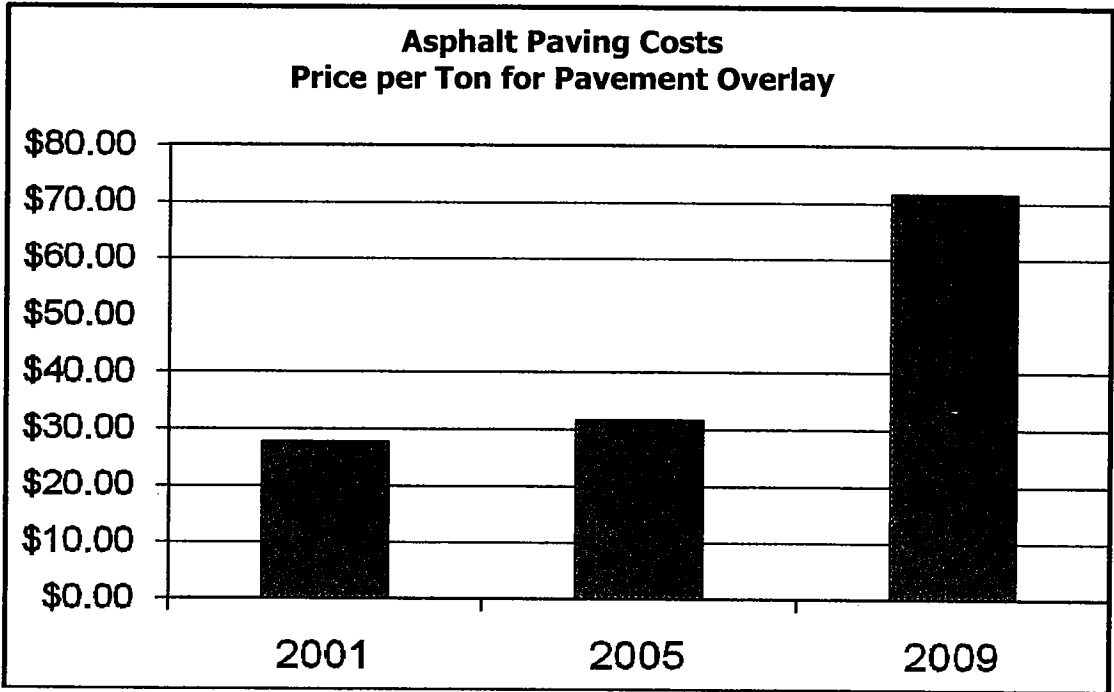
Maintenance and Preservation

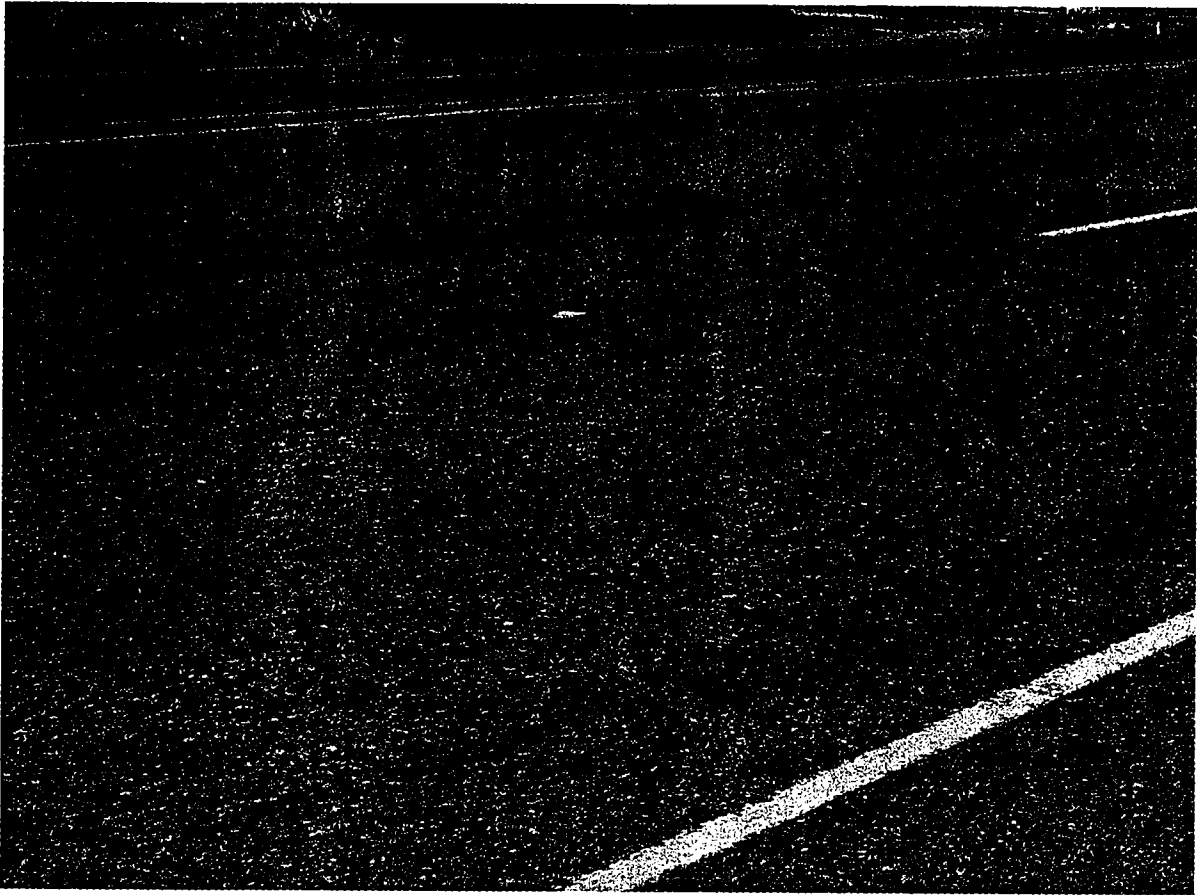
Keeping up with maintenance and preservation projects is clearly the most cost-effective method of maintaining highways, roads and streets.

In recent years major inflationary increases in petroleum products have limited the number of maintenance and preservation projects that can be undertaken. The raw product that causes a gallon of gasoline to go up in price is the same raw product used to make the asphalt that maintains and preserves our roads. As the price of your gasoline goes up, so does the cost to maintain and preserve your roads. Additionally, most road maintenance equipment and trucks use diesel fuel.

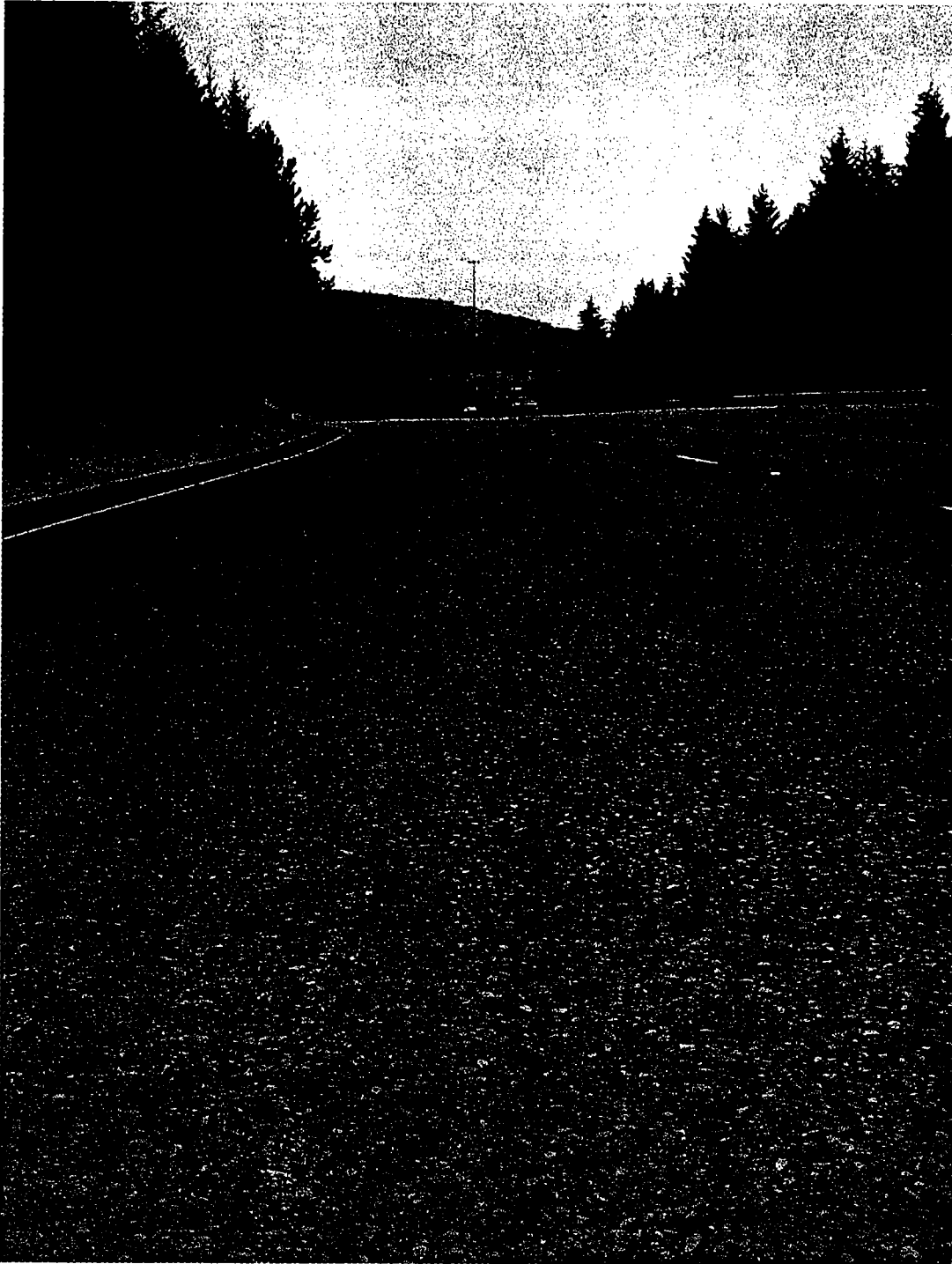
Bottom line: the spiraling cost of asphalt used for paving is reducing the amount of work that can be done to keep the roads in good condition.

This chart shows the precipitous increase in the price of petroleum products.

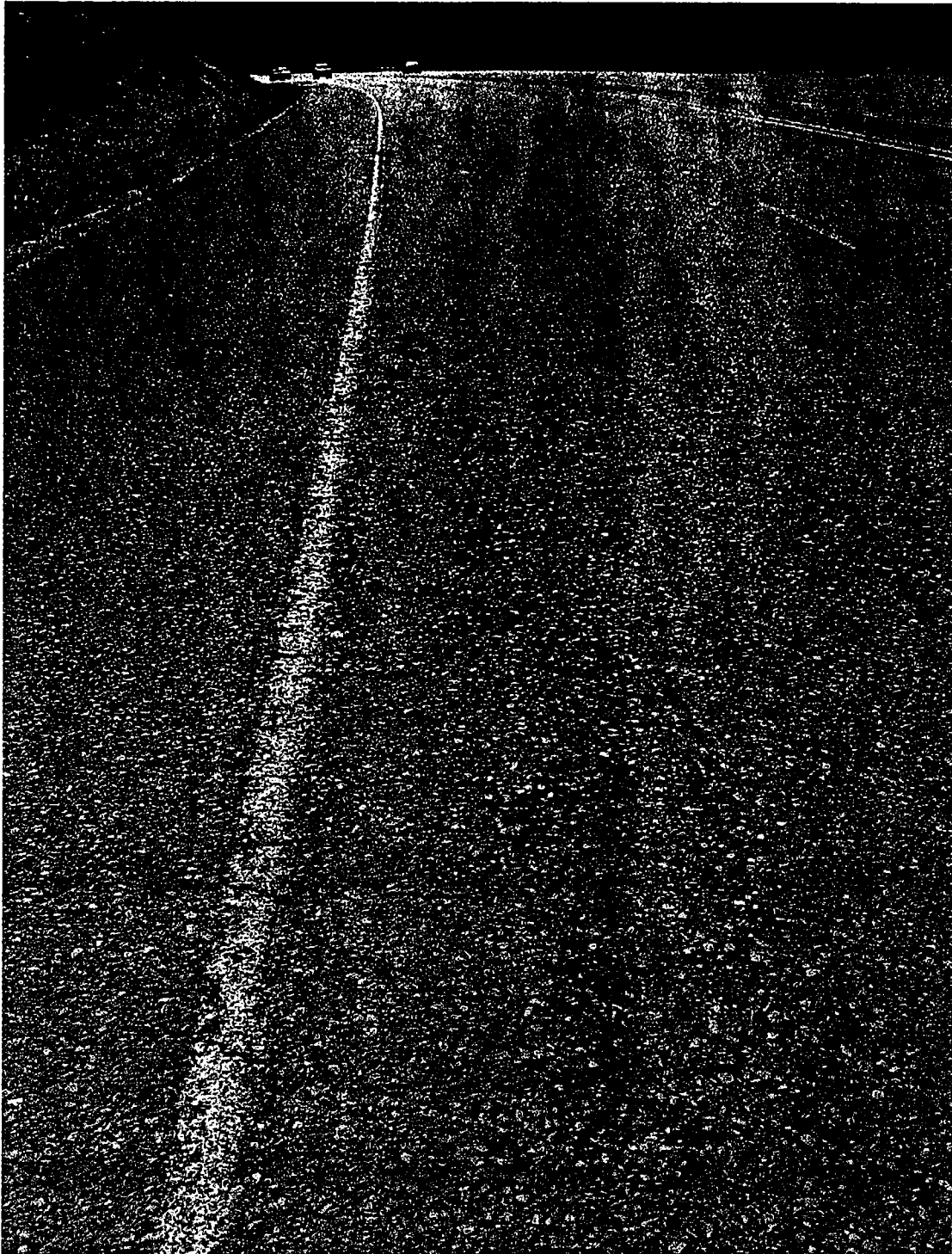




Flushing and cracking between I-5 and Eldon Schaeffer



West bound lanes – alligator cracking



Close up of alligator cracking