



Transportation Infrastructure Strategic Plan

Jurisdictional Briefing
January 24, 2008



Woodland Transportation Infrastructure Strategic Plan

Agenda

- Introduction of Team
- Why are We Doing this Study?
- What will the Study Address?
- Steps in the Process
- What have We Done to Date?
- What have We Found?
- Project Vision
- Improvement Options
- Next Steps
- Tonight's Public Meeting



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Introductions

- Jerry Sorrell – COG Project Manager
- Rosemary Siipola – COG Staff
- Anne Sylvester – Consultant Project Manager



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Project Team

- Technical Team
 - City and Port of Woodland
 - Cowlitz County
 - Washington State Department of Transportation
 - Cowlitz-Wahkiakum Council of Governments
- Citizens Advisory Committee
 - Bill Behrens – Chamber of Commerce
 - Jim Donald – Diking District
 - Darlene Johnson – Woodland Truck Line
 - Dennis Johnson – East side Resident
 - Sharon Knight – Chamber of Commerce
 - Joel Lengyel – Chamber of Commerce
 - Bill Raybell – PDM Steel
 - Larry Schlect – Schlect Construction



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Why Are We Doing This Study?

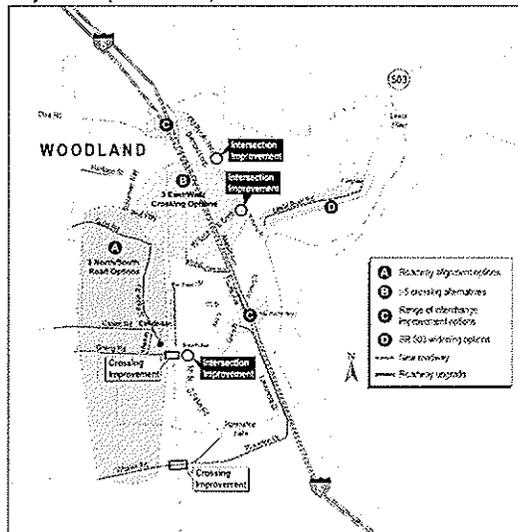
- Growth is coming – Need a plan with priorities to get funding
- Challenge is to retain the small town feel of Woodland while addressing problems of growth
- Solutions should be generated by the community – not outsiders
 - Without a plan, growth occurs and eventually constrains future solutions
 - No predetermined outcomes
 - Provides the basis for seeking funding from competitive sources
- This is not about any current or pending development



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What will this Study Address?

Major Transportation Improvement Choices



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What will the Study Produce?

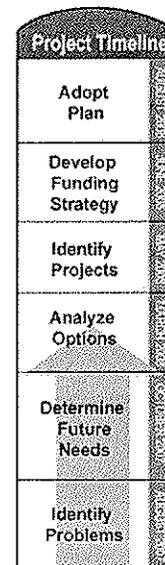
- A phased strategy to improve the Woodland transportation system
 - Short-term to provide an intersection improvement along SR 503 that can be constructed with available funding
 - Longer-term plan to identify specific project proposals, priorities, costs, funding sources and grant opportunities
 - No decisions have yet been made, considering options



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Steps in the Process?

- Identify Problems / Define Vision
- Determine Future Needs
- **Analyze Options**
- Identify Projects
- Develop Funding Strategy
- Adopt Plan (August 2008)
- Begin to Assemble Funding
- Interchange & environmental approval process
- Design, Permit and Build Projects



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What have We Done to Date?

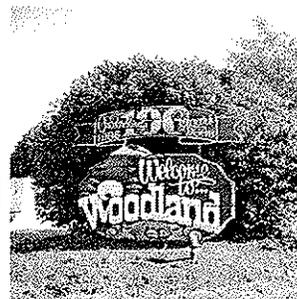
- Interviewed stakeholders – define problems and discuss ideas
- Conducted a public open house in August to get input on problems and potential solutions
- Three technical and citizen’s advisory committee meetings
- Developed draft vision for the project and desired outcomes
- Conducted technical analysis of existing problems, growth potential and likely future traffic problems
- Begun evaluation of improvement options



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Project Vision

- The City of Woodland’s transportation system effectively and efficiently moves people and goods while reinforcing the City’s small town feel, with improved connections between Woodland’s residential neighborhoods, industrial areas, downtown, farms, parks, I-5 and recreational areas.



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Desired Outcomes of the Study

- Results in a clear plan that:
 - Addresses needs,
 - Is supported by the community, and
 - Can be used by elected leadership to advocate for project priorities and secure funding



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What have We Found to Date?

- Existing conditions analysis identified several safety and congestion problems
- Future (2025) conditions analysis found traffic congestion problems grew at existing problem locations and expanded to most major intersections
- This analysis is based on adopted Comprehensive Land Use Plan, local population & employment forecasts, traffic growth trends on I-5



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What we Heard at the Last Open House

- Lack of east/west connections forces everyone through the I-5 interchanges increasing congestion levels
- Roadway and intersection design issues (sight distance, physical constraints, confusion)
- High levels of truck traffic at many locations
- Railroad crossing delays
- Lack of bicycle / pedestrian facilities



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Lots of Ideas about Improvements

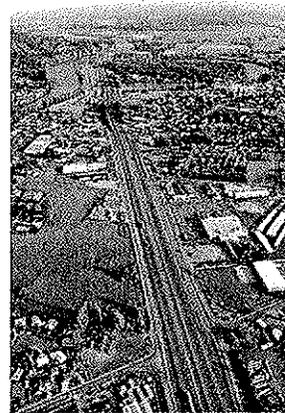
- Widen and improve the I-5 interchange areas
- Widen SR 503 to include pocket turn lanes & install stop lights at key intersections
- Build an I-5 overpass north of Scott Avenue to avoid blocking business access and make intersection improvements along Scott
- Install signage to direct motorists to I-5 from Scott
- Address the railroad bottleneck issue (at Dike Road and elsewhere)
- Address flooding issue
- Lots of ideas for local street connections



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Improvement Options

- Focused on improving interchanges and adding east/west and north/south capacity to the city's street system
 - I-5 and Railroad Crossing Options
 - I-5/Dike Road interchange
 - I-5/SR 503
 - SR 503 – Goerig to east city limits
- Independent of and unrelated to Wal-Mart & any other pending land use decision



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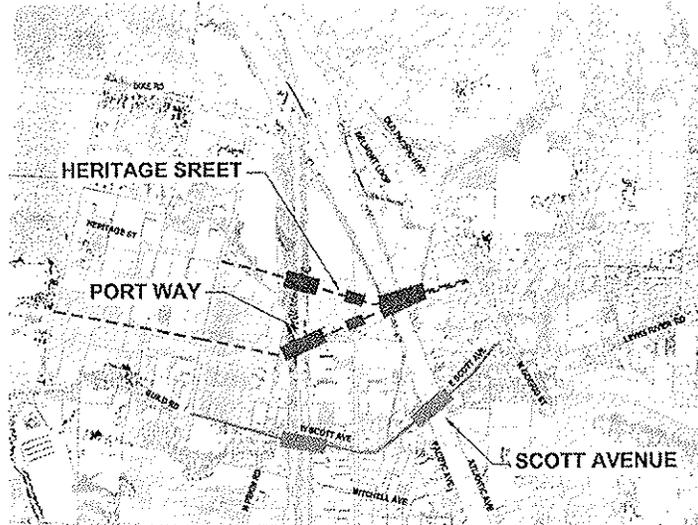
Criteria Used to Evaluate Options

- Congestion improvement
- Bicycle & Pedestrian needs
- Possible environmental issues
- Making connections
- Land acquisition needs
- Safety
- Cost influences



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I-5 and Railroad Crossing Options



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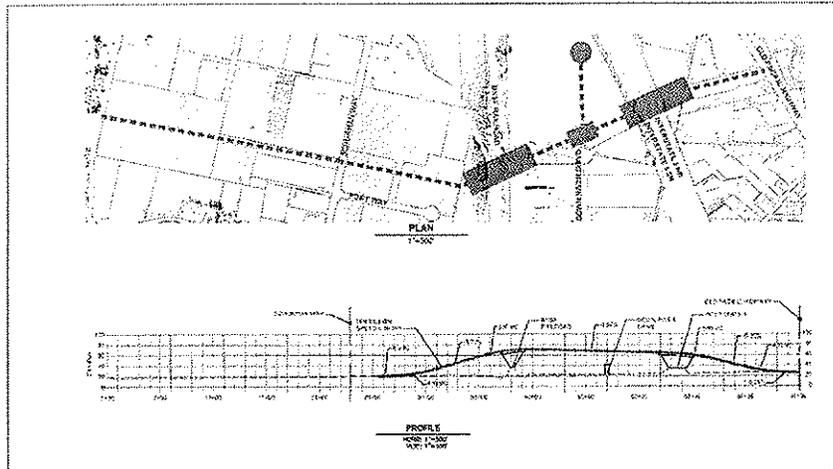
Objectives of Crossing Options

- Relieve traffic on Dike Road and SR 503 near I-5
- Add east/west connectivity across the freeway to provide for more travel choices
- Provide a grade-separated railroad crossing to serve growing industrial area and accommodate emergency vehicle access



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Crossing Option #1 – Port Way

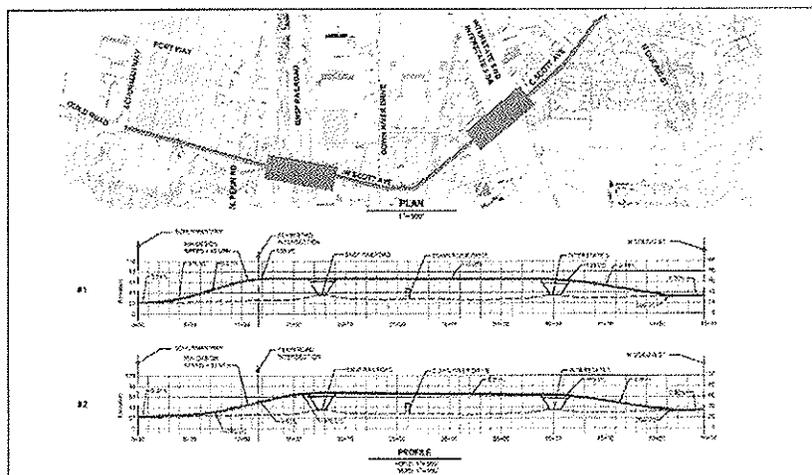


Crossing Option #1 - Port Way



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Crossing Option #2 – Scott Ave

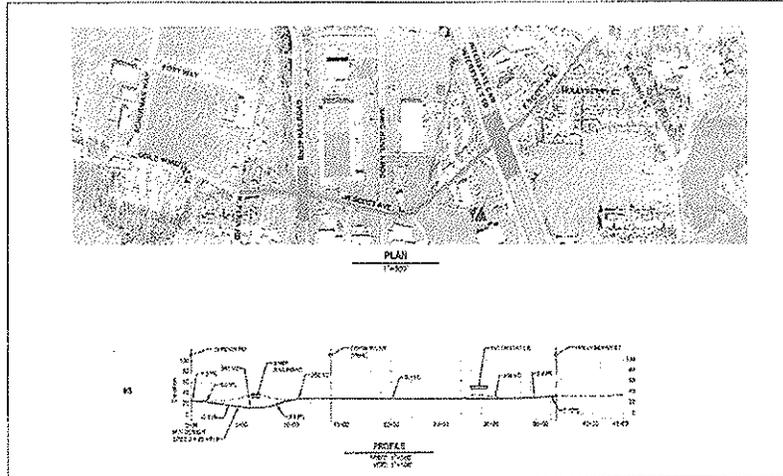


Crossing Option #2 - Scott Avenue



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Crossing Option #2 – Scott Ave

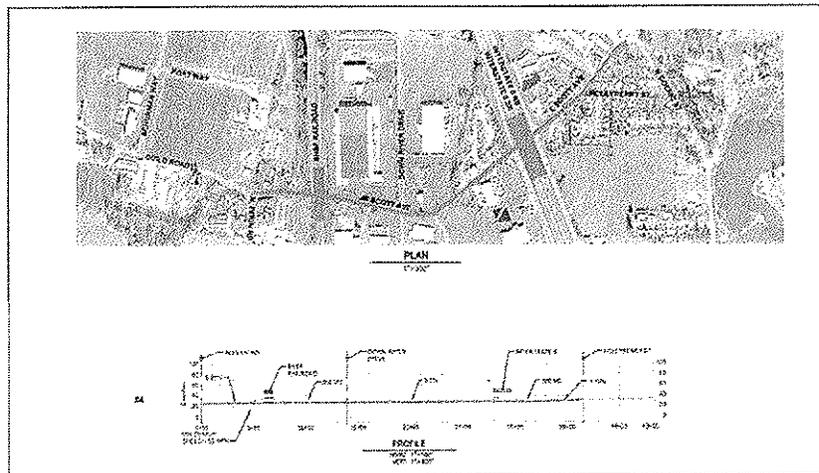


Crossing Option #2 - Scott Avenue



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Crossing Option #2 – Scott Ave

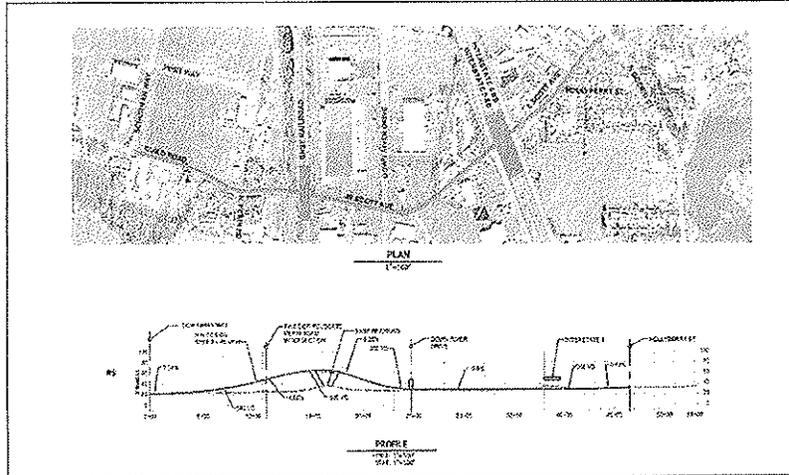


Crossing Option #2 - Scott Avenue



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Crossing Option #2 – Scott Ave



Crossing Option #2 - Scott Avenue



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Crossing Option Findings

- Scott Avenue options are more effective in diverting traffic from Dike Road and (to a lesser degree) SR 503
- Likely greater impacts to some existing properties with Scott Avenue options than Port Way or Heritage Street
- Little benefit to traffic relief with Heritage Street
- Both options can be connected with I-5 to/from the north



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Objectives of Interchange Options

- Address existing and future congestion problems on local streets at interchanges
- Address potential for traffic back-ups onto I-5
- Address flooding in Dike Road vicinity
- Minimize land use impacts, right-of-way needs, while improving connectivity, safety and clarity
- Be cost-effective



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Interchange Area Improvements

- A key choice is whether to install traffic signals on Dike Road and/or SR 503 at I-5 or multi-lane roundabouts
- No connection with interim improvement under consideration at Dike Road
- We are developing a long-term solution and investigating both options
- Provide a little information about roundabouts since they may be unfamiliar



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How do Roundabouts Compare with Signals

Item	Modern Roundabout	Traffic Signal
Low Crash Severity	Excellent	Poor
Low Vehicle Speeds	Excellent	Poor
Pedestrian Safety	Good	Fair
Bicycle Safety	Good	Fair
Aesthetics	Excellent	Poor

Conclusions from a study done for State of New Hampshire



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Medford – Feasibility Study

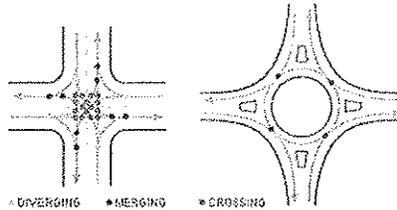
Criteria	Signal/Re-stripe	Signal/Realign	Roundabout
<i>Safety</i>			
Accident Reduction	High potential for right angle, left turn and rear end conflicts	High potential for right angle, left turn and rear end conflicts	Insurance Institute for Highway Safety found 39% overall decrease in crashes
Accident Severity	Accidents can be more severe	Accidents can be more severe	75% reduction in injuries; up to 90% reduction in fatalities.
<i>Operations</i>			
2023 Level of Service	LOS D/E	LOS C	LOS A with single circulating lane
2023 Delay	Averages 53 seconds/vehicle	Averages 31.5 seconds/vehicle	Averages 8 seconds/vehicle
2023 Queue Length	Northbound – 732 feet	Northbound – 449 feet	Northbound – 198 feet



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Safety Benefits

- Reduction in the number of conflict points



- Lower speeds on entry
 - Drivers slow down and must yield
 - Injuries and fatalities are reduced due to slower speeds
- Accident rates with roundabouts typically drop significantly



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Crash Reductions in Golden, CO



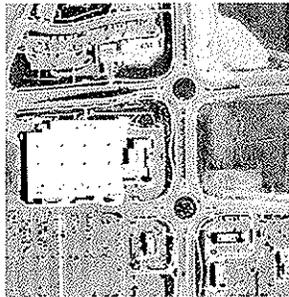
- 4 signals changed to roundabouts
- 60% drop in crashes (mvm)
- 94% drop in injuries
 - 31 in 3 years to only 1 in 4 years
- No pedestrian crashes



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Typically Much Less Delay

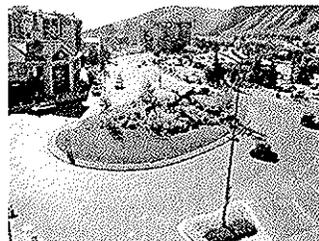
- Roundabouts are typically 30 percent more efficient than traffic signals
 - No wasted green time
 - Slower speeds provide more gaps for entering intersection
 - 2 lanes moving all the time have roughly the same capacity as 4 lanes stopped half the time at red lights.
 - Can be spaced more closely together than signals and not cause back-ups



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Other Roundabout Benefits

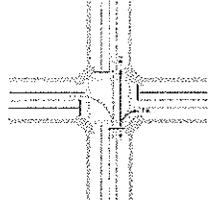
- Work at unusual intersections (including offsets, odd number of approach lanes, difficult angles)
- Often require less total right-of-way
- Lower on-going maintenance & operations costs (Can save up to \$5,000/year in electricity costs)
- Environmental benefits
 - Can reduce air pollution by reducing number of idling vehicles
 - Less braking and accelerating can reduce noise impacts
 - Can be more aesthetic with landscaped center island



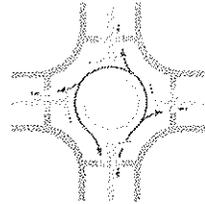
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Lots of Different Design Options

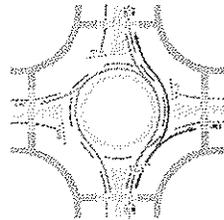
- Standard Intersection



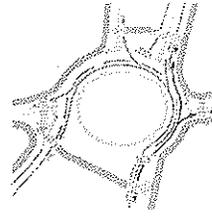
- Single lane Roundabout



- Double lane Roundabout

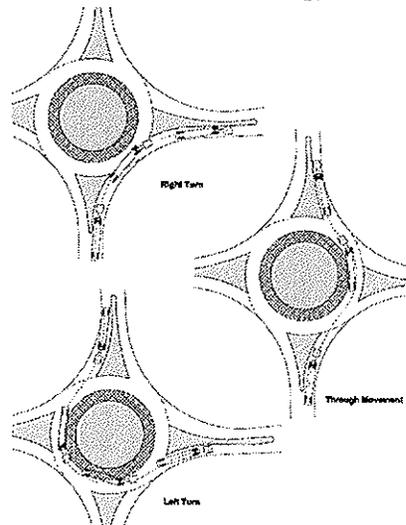


- Double lane Roundabout (Couplet)



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Can Also Serve Large Vehicles

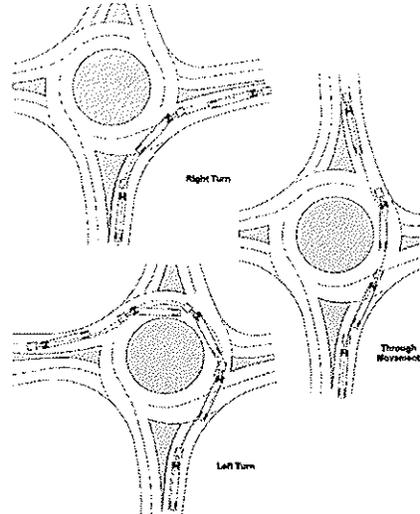


Single Lane Roundabouts



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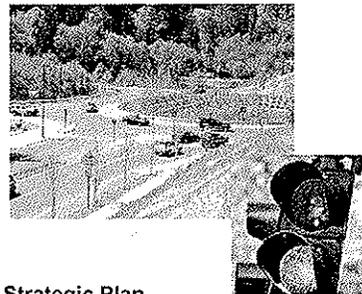
Can Also Serve Large Vehicles



Double Lane Roundabouts
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Conclusions

- Both options are effective in managing traffic at intersections
- Each has its benefits and shortcomings, as well as its specific, appropriate applications
- Need to weigh all the pluses and minuses before making any recommendations



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I-5/Dike Road Interchange



CONCEPT 3B -



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I-5/Dike Road Interchange



CONCEPT 4B -



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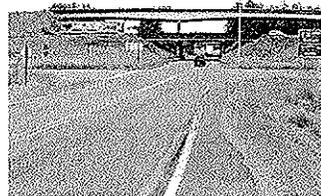
I-5/Dike Road Interchange



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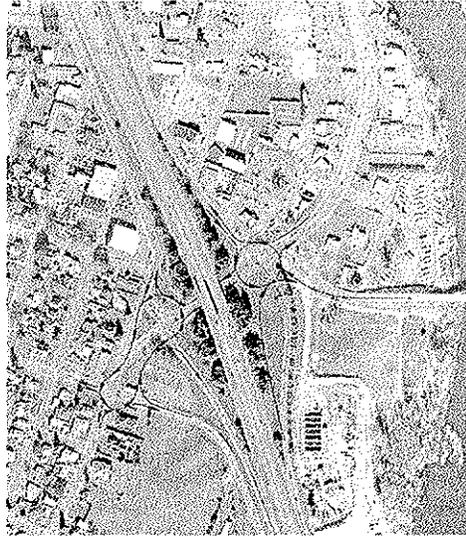
I-5/Dike Road Findings

- Roundabout option would operate within WSDOT thresholds
 - Likely need additional eastbound lane between Schurman Way and I-5 southbound ramp
 - May not need to widen Dike Road – further investigation underway to confirm
- Signalized options will require widening of Dike Road and likely raising of railroad and/or some freeway segments
- Flooding problems need resolution



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I-5/SR 503 Interchange

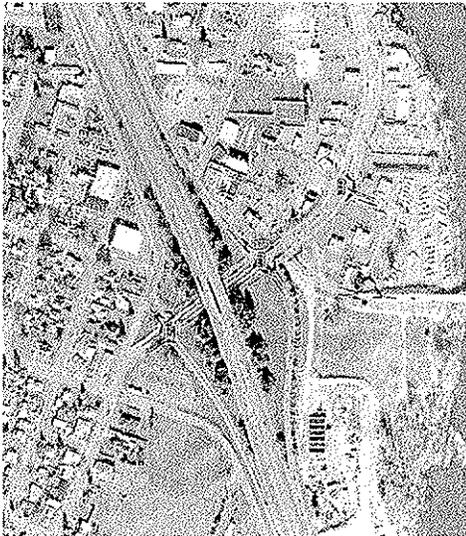


CONCEPT 2B -



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I-5/SR 503 Interchange

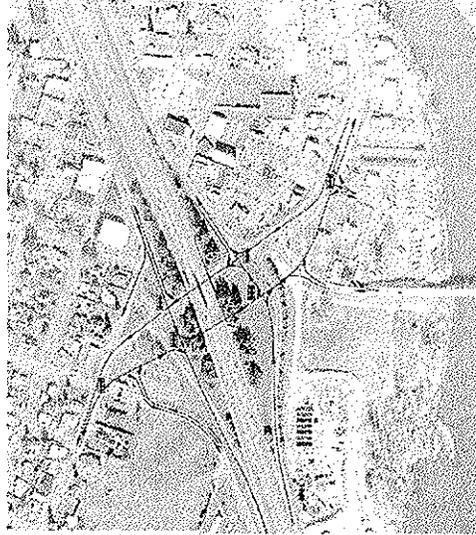


CONCEPT 3B -



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I-5/SR 503 Interchange

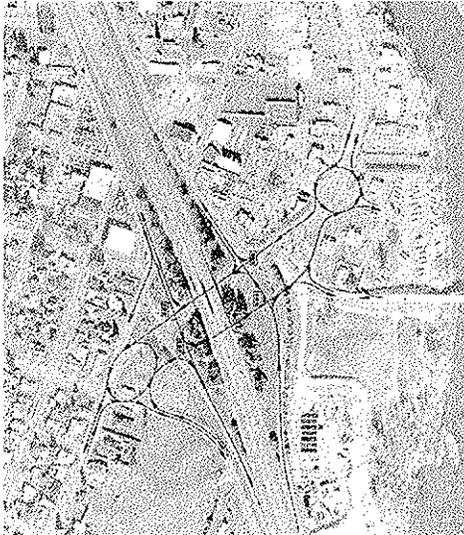


CONCEPT 5A



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I-5/SR 503 Interchange



CONCEPT 5B



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I-5/SR 503 Findings

- Both signal and roundabout options could work but will require major changes to existing interchange ramps and intersections
- Challenging to maintain all existing connections while minimizing property impacts



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SR 503: Goerig - East City Limits

- Many options considered – involve widening for lefts with various improvements at key intersections
- Key findings:
 - Added left turn capacity at key local streets will help to improve safety
 - Options carried forward would include signals at Goerig and at Scott
 - Left turn lanes at Scott, consider restricting left turns at Goerig (requiring traffic to use Scott)



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Final Product of this Study

- A strategic plan that identifies recommended concepts for improvement
- This plan will identify:
 - What's to be done
 - When it should be done
 - Who will do it
 - Potential funding sources



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Process to Make Improvements at the I-5 Interchanges

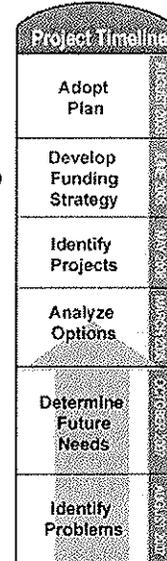
- Once adopted into a local plan, WSDOT will take leadership role in cooperation with City, County, Port, CWCOG and others
- Interchange Justification Report (IJR) – agreement on changes by DOT and Federal Highway Administration
- Environmental review and federal concurrence
- Design and Funding
- Construction



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Next Steps in the Study

- Refine the preliminary improvement options / alternatives based on community discussion
- Briefing & public meeting in May 2008 to discuss evaluation of improvement options, recommendations & priorities
- Develop funding and implementation strategy in June 2008
- City Council work session in July 2008 prior to adoption
- Adoption of plan slated for August 2008



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Tonight's Public Meeting

- Brief presentation
- Break into table groups to get input on:
 - Discussion of options for Dike Road, SR 503 and crossings
 - Any ideas about needed improvements?
 - Are we on the right track?
- Comment form available
- Kids table and refreshments



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