



# Integrating Health Impact Assessment into Road Safety Audits: Lessons from a case study in Clackamas County, Oregon

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Moving Active Transportation to Higher Ground:  
Opportunities for Accelerating the Assessment of Health Impacts  
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# What is a Road Safety Audit (RSA)?



- Formal safety performance investigation
- Independent audit team
- Discrete geographic focus
- Qualitatively estimates & reports on potential safety issues
- Identifies improvements for all users
- **Very common!!!**



# What is a Health Impact Assessment (HIA)?



**A structured process** that uses scientific data, professional expertise, and stakeholder input **to identify and evaluate public health consequences of proposals** and suggests actions that could be taken to minimize adverse health impacts and optimize beneficial ones

Source: “Improving Health in the United States: The Role of Health Impact Assessments” by the National Research Council, September 2011



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# RSA+HIA Project overview:



- RSA: Examine a portion of McLoughlin Blvd. (Hwy 99E) in Jennings Lodge, OR, focusing on the safety of pedestrians and bicycles primarily related to roadway crossings
- HIA: Take outputs from RSA and use them as inputs into HIA
- Examine results

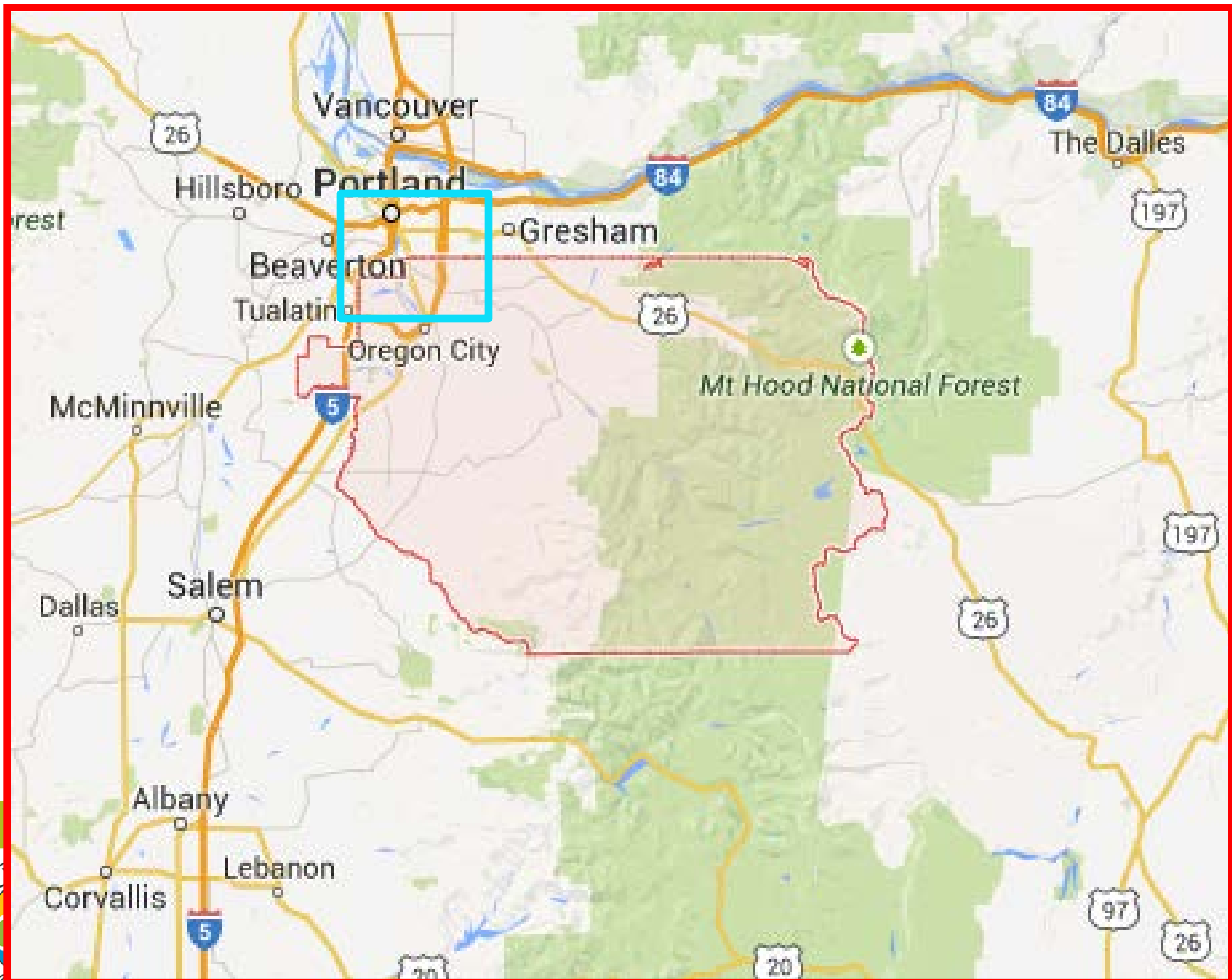


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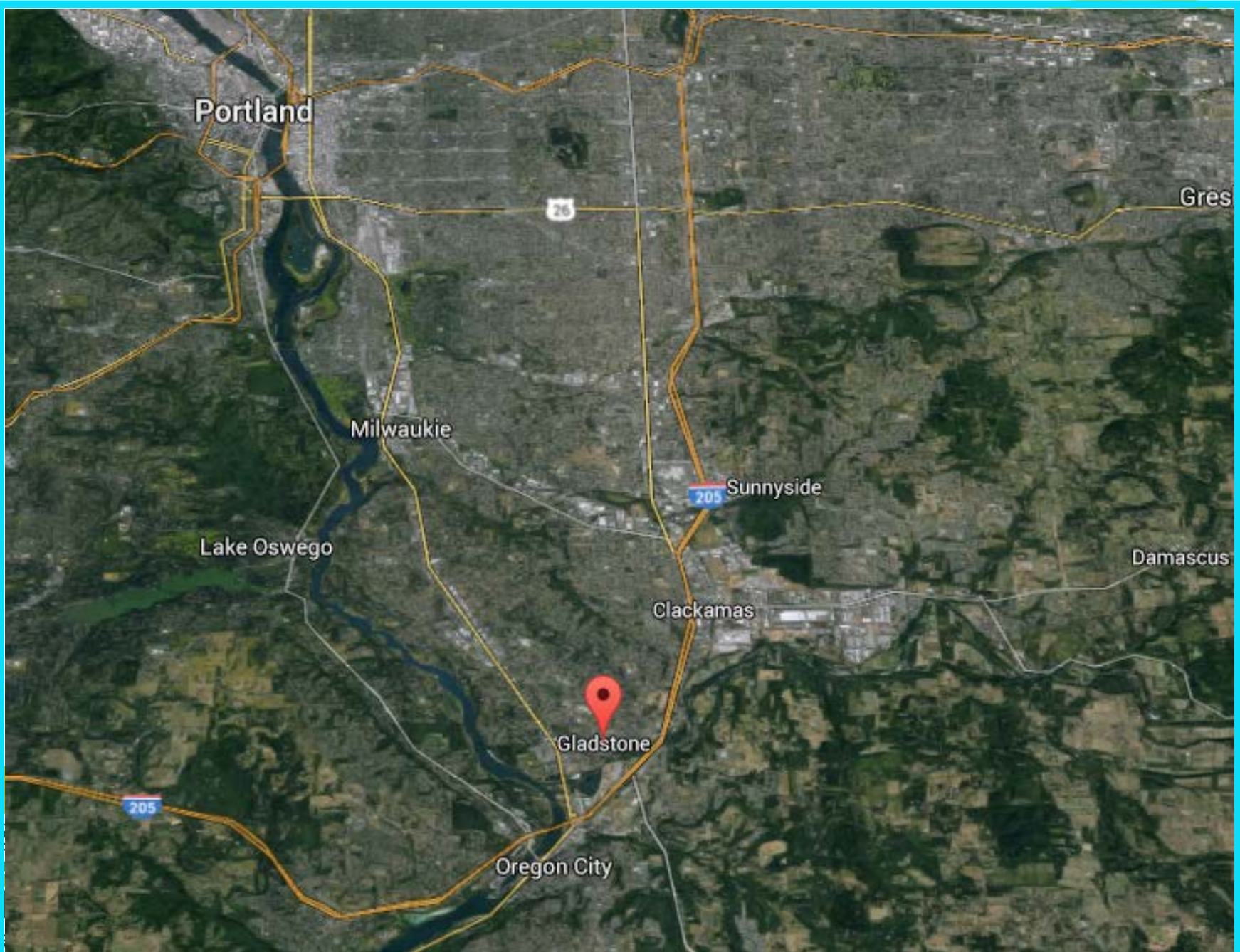






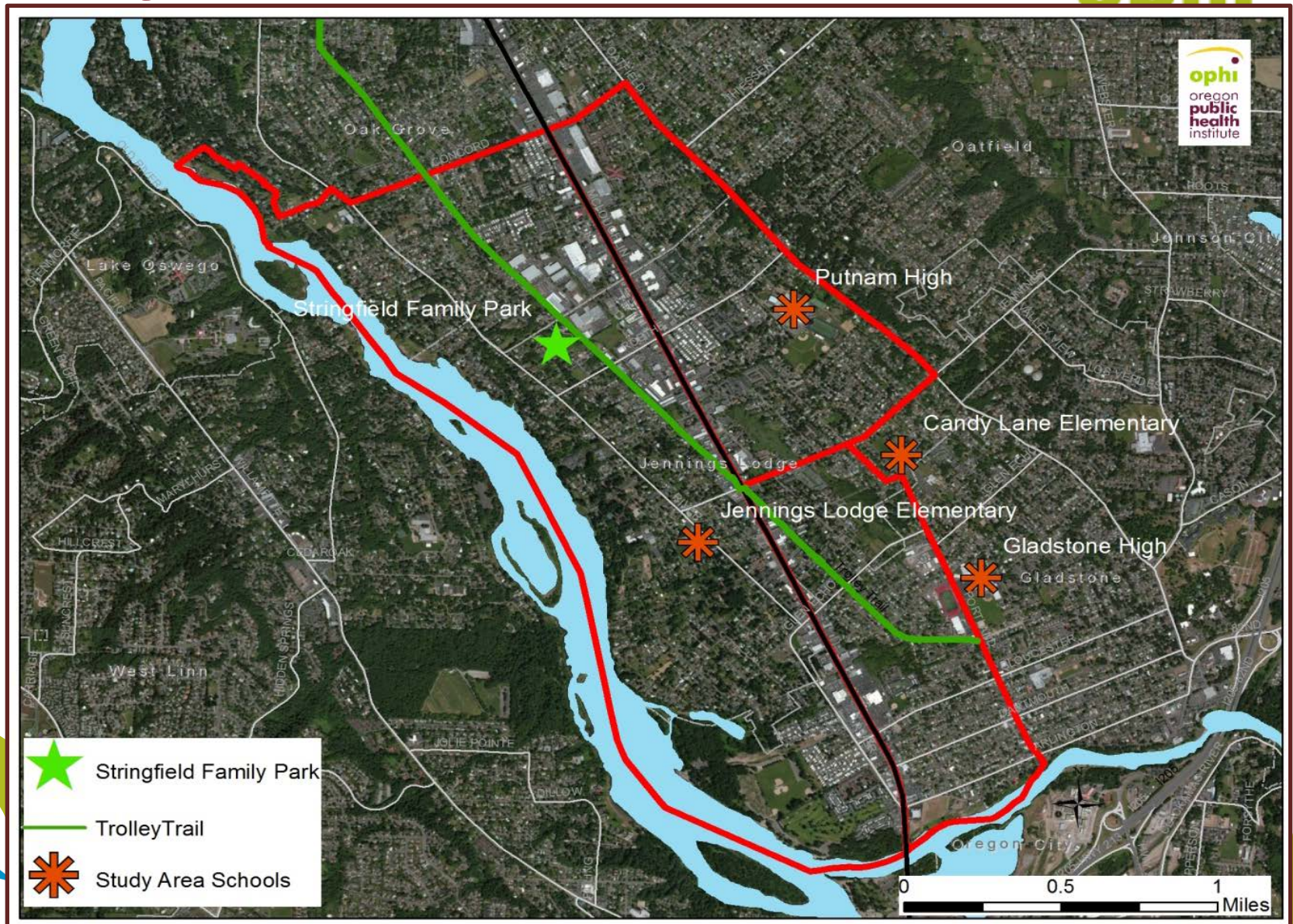








# Study Area





# Study Area



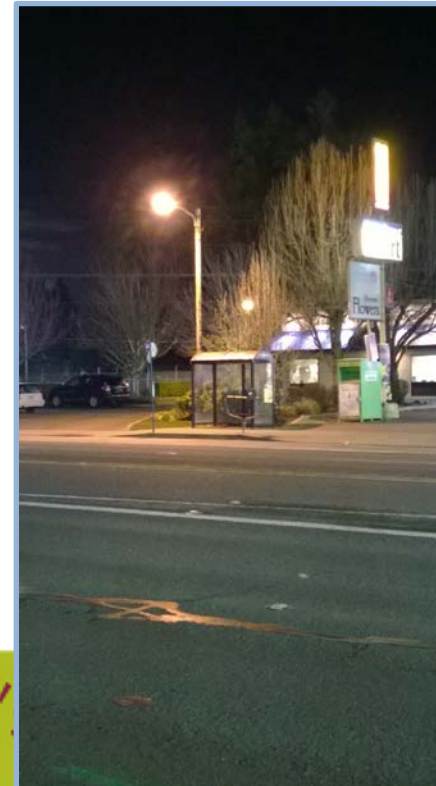
# Study Area

Wide pedestrian crossings



High transit use

Intermittent  
street  
lighting



Unsignalized crossings







# Project Rationale

**ISSUE #1:** How can we improve safety for bicyclists and pedestrians who need to access resources along and across McLoughlin Blvd?

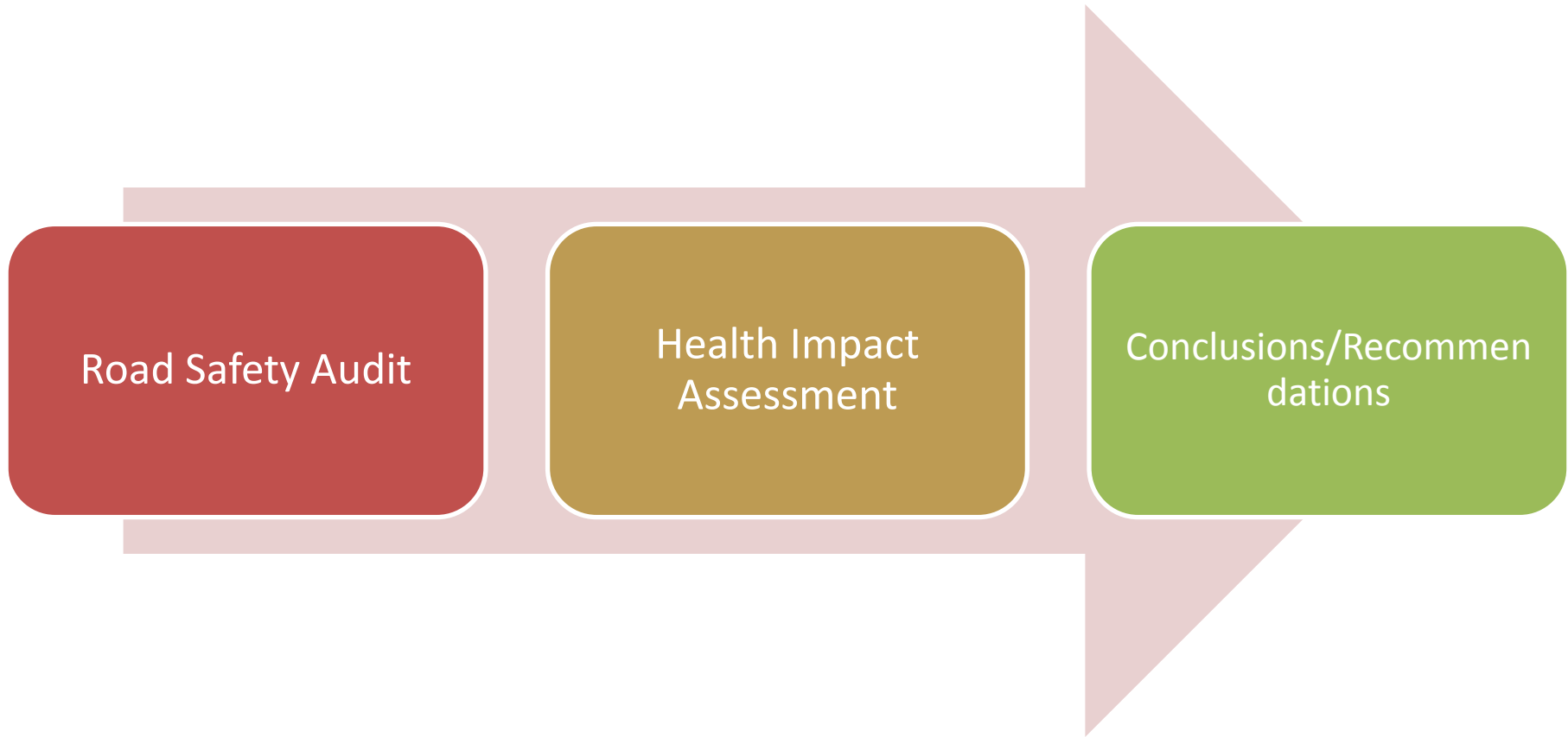
- Road Safety Audit

**ISSUE #2:** How might the safety improvements impact other active transportation-related health determinants?

- Health Impact Assessment



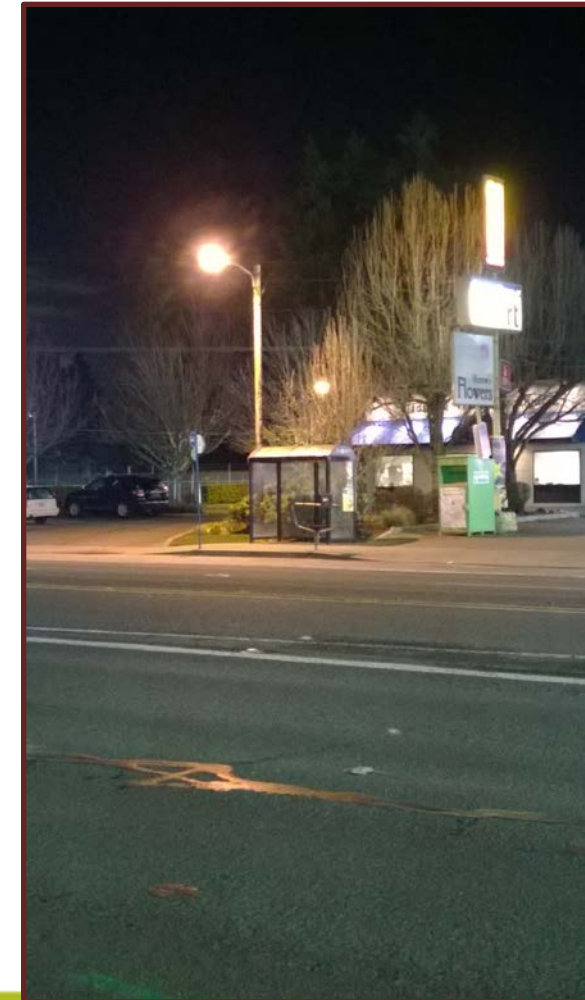
# Process



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# RSA Outputs

- Identified and prioritized 11 primary safety issues
  - Left turn crossing movements
  - Night time visibility
  - Sidewalk quality
  - Etc.





# RSA Outputs

- 46 Recommended solutions
  - For “Sidewalk quality”:
    - Fill gaps in sidewalk network.
    - Add reflective tape to improve visibility at nighttime.
    - Create delineation to prevent pedestrians from falling off sidewalk edge.
    - Improve sidewalk grade and increase sidewalk width.



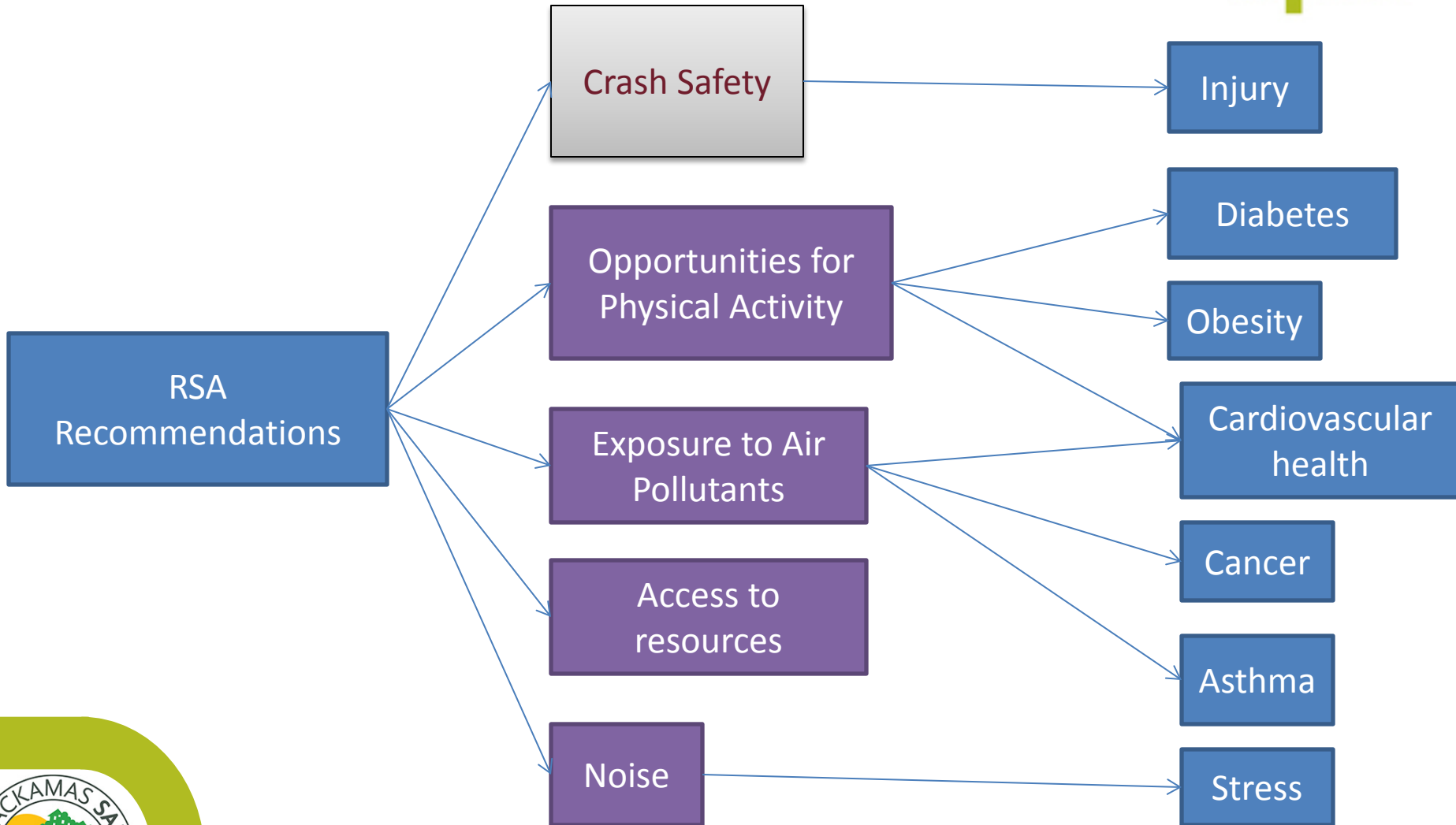


# RSA+HIA Process

1. Convene knowledgeable stakeholders:
  - a. Transportation planners and engineers
  - b. Public health professionals
  - c. Community members
2. Identify potentially impacted health determinants (other than safety)
3. Determine how to assess and rate potential impacts
4. Conduct assessment
5. Findings and recommendations



# Impacted health determinants



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# How to assess impacts?

- Physical Activity:
  - Does the recommendation improve access to the Trolley Trail?
  - Does the recommendation encourage walking, biking, or transit use?
  - Does the recommendation improve access to schools and parks?



# How to assess impacts?

- Exposure to Air Toxics and Noise
  - Does the recommendation encourage walking/biking along streets/paths parallel to McLoughlin?



# How to assess impacts?

- Access to Health Supportive Resources
  - Does the recommendation improve access to schools and employment opportunities?





# How to assess impacts?

Scoring	
-2	relatively strong negative impact
-1	relatively minor negative impact
0	no impact
+1	relatively minor positive impact
+2	relatively strong positive impact



# How to assess impacts?

Potential Solutions proposed by the RSA	Access to the Trolley Trail	Walking, biking, or transit use	Access to schools and parks	Walking/ biking along parallel streets/ paths	Access to schools	Access to jobs	HIA Score
Relocate bus stops closer to marked pedestrian crossings.	1	2	1	1	0.5	1	6.5





# How to assess impacts?

Table 2: HIA raw and average scores for each health determinant

Potential Solutions proposed by the RSA	HIA Score	RSA Risk score	PHYSICAL ACTIVITY			EXPOSURE TO AIR AND NOISE POLLUTION	ACCESS TO RESOURCES		AVERAGE SCORES		
			Access to the Trolley Trail	Walking, biking, or transit use	Access to schools and parks		Access to schools	Access to employment	Physical Activity	Exposure to Air and Noise Pollution	Access to resources
HIGH IMPACT											
Build sidewalks	12	2	2	2	2	2	2	2	2.0	2.0	2.0
Improve lighting	12	2	2	2	2	2	2	2	2.0	2.0	2.0
Provide additional crossing enhancements to increase visibility and attract pedestrians (e.g. warning signs, crosswalk markings, reflectors, advanced stop bars)	12	2	2	2	2	2	2	2	2.0	2.0	2.0
Flashing Beacons, RRFB, etc.	11.5	2	2	2	2	1.5	2	2	2.0	1.5	2.0
Add street lighting to remove contrast with private illuminated signs.	9.5	2	2	2	0.5	2	1	2	1.5	2.0	1.5





# Findings

- Most of the 42 RSA solutions would improve multiple health issues
- Physical activity is the health determinant impacted by most RSA solutions
- The “high impact” solutions are relatively large pedestrian infrastructure projects that both improve pedestrian mobility and encourage changes in driver behavior



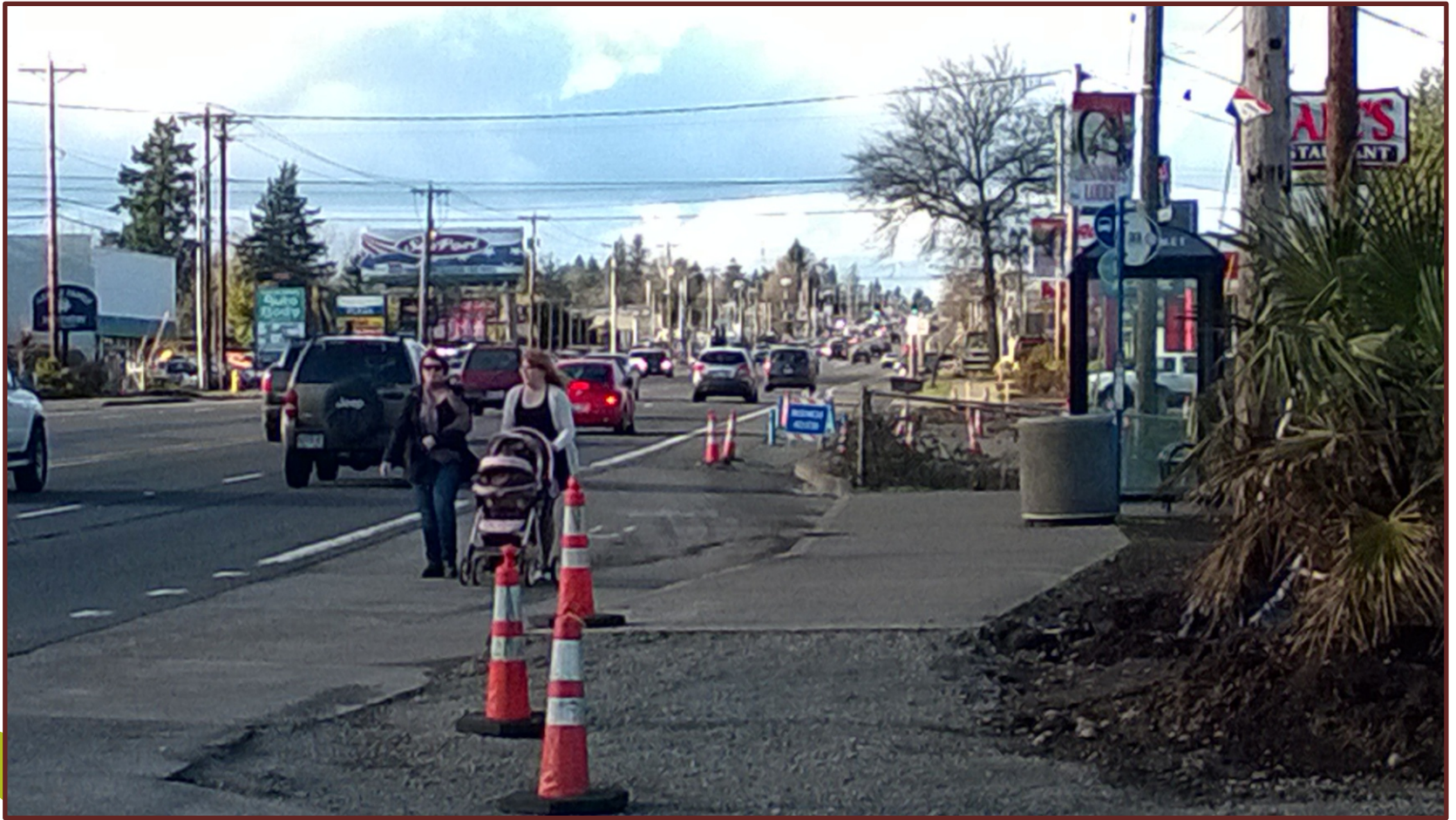
# Lessons Learned

- The HIA helped:
  - Identify additional benefits for safety improvements
  - Prioritize investment decisions
  - Highlight transportation equity
  - Stakeholders discuss and articulate preferences and advocate for action
  - Staff articulate benefits of investments
  - Develop partnerships between county departments

# Lessons Learned

- Future RSAs could (and should) easily be designed to include consideration of potential impacts on multiple health determinants, especially:
  - Opportunities for physical activity
  - Access to health supportive resources
  - Exposure to air/noise pollution
  - Health equity

# Thank You



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