



# Oregon ITE Nominations for 2023 Western District Transportation Project of The Year

I Nate Schroeder

nominate Clackamas Regional Center Mobility Improvements  
for ITE Western District's **Transportation Project of the Year award** in the following  
category (select only one):

<input checked="" type="checkbox"/>	<b>Complete Streets</b> - A program, study, or infrastructure project that achieves or facilitates traditional Complete Streets objectives: accommodates all/many modes of transportation, accessibility for all ages, more comfortable environment for all users.
<input type="checkbox"/>	<b>Transportation Systems Management and Operations (TSMO)</b> - A program, study, or infrastructure project that achieves or facilitates traditional TSMO objectives: smoother and more reliable traffic flow, reduced congestion, improved safety, etc.
<input type="checkbox"/>	<b>Safety</b> - A program, study, or infrastructure project that addresses existing or potential transportation safety concerns.
<input type="checkbox"/>	<b>Planning</b> - Any study of a planned transportation project or program.
<input type="checkbox"/>	<b>Traffic Engineering</b> - An exceptional transportation infrastructure project that creates a safe and efficient movement of people and goods on travel ways.

The project team includes the following people:

Agency/Company	Name(s)
Clackamas County	Dave Queener, Carl Olson, Ioana Cosma
DKS Associates	Nate Schroeder, Peter Coffey, Lorel Camacho, Kevan Kantan, Randy Johnson,
Harper Houf Peterson Righellis	Dan Houf, Jeff Alston, Neil Waibel

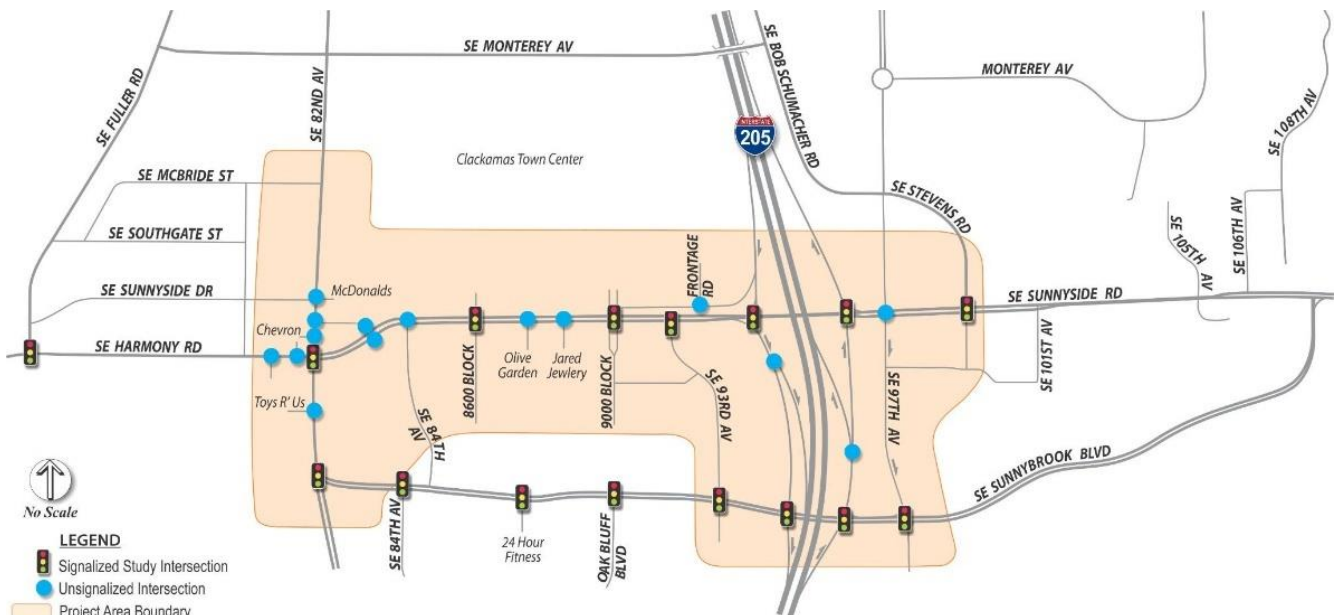


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## SCOPE

The Clackamas Regional Center (CRC) Mobility Project applied significant traffic engineering design improvements to Sunnyside Road, SE 82nd Avenue, SE Harmony Road, and the I-205/Sunnyside Road Interchange. The project includes multi-modal improvements including new or extended vehicle travel lanes, signal modifications, bike lanes, new or improved sidewalks, and multi-modal pathways.

## Project Location



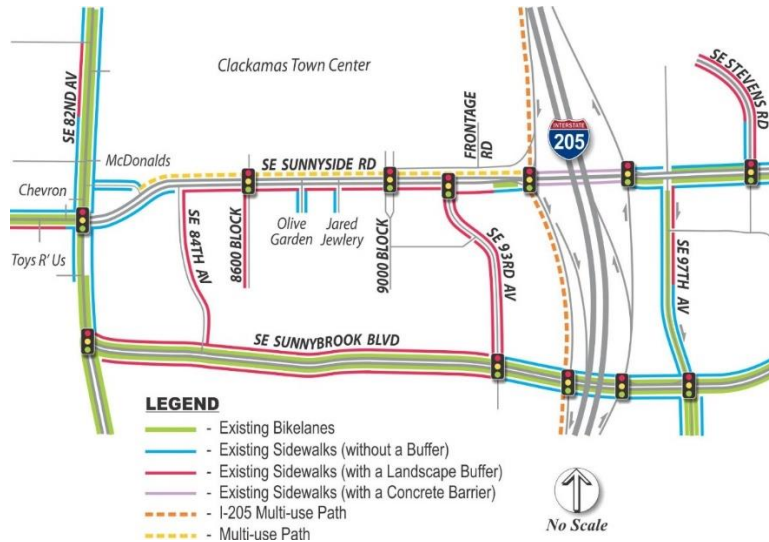
## Project Safety Needs





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## Project Bicycle and Pedestrian Needs



## Application of Innovative Ideas

The team of analysts considered several innovative intersection configurations as part of the alternatives analysis process, which included things like displaced left turns and continuous flow intersections. The recommended improvements advance for final design and construction included the reconstruction of ADA-compliant curb ramps and islands, re-building signalized intersections, constructing multiple RRFB pedestrian crossings along with the construction of separated bike and pedestrian facilities that connect the surrounding area to the Clackamas Town Center light rail station. The project installed colored bicycle facilities to identify and increase the visibility of potential conflict areas through the intersections.

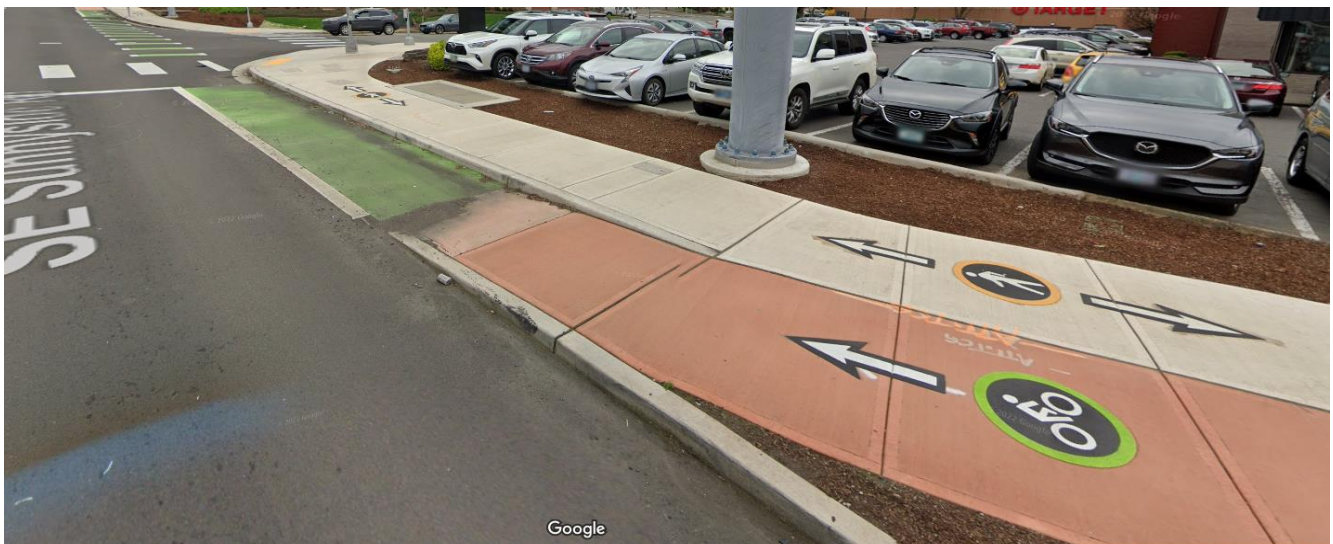


Figure 1 Separated Bike & Pedestrian Path



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## Commitment to the Advancement of the Profession

DKS has presented this project companywide to interns and engineers as an example of real-world applications of innovative multi-modal solutions. Improving bicycle and pedestrian safety along with increasing signal green utilization.

DKS and Clackamas County engineering groups found an opportunity to share the knowledge gained through this project at an Oregon ITE workshop and will continue to share this knowledge through a poster presentation at ITE Annual meeting this coming August.

Innovative ideas that advance the transportation profession included innovative signal operations with dedicated bicycle signal heads, right turn protected/permissive signal heads along with part time restricted right turn signs that turn on a few seconds ahead of the bicycle signal heads and stays on thru the yellow interval of the bicycle phase.



Figure 2 Bicycle Signal Phase with Right Turn FYA and PTR

These signal operations increase driver awareness of vulnerable road users and reduce conflict opportunities between cars and vulnerable users. The project also implemented signal phasing that allocated more time to pedestrian movements while continuing to serve non-conflicting left turn vehicle movements, which helped get even more operational efficiency out of the system.



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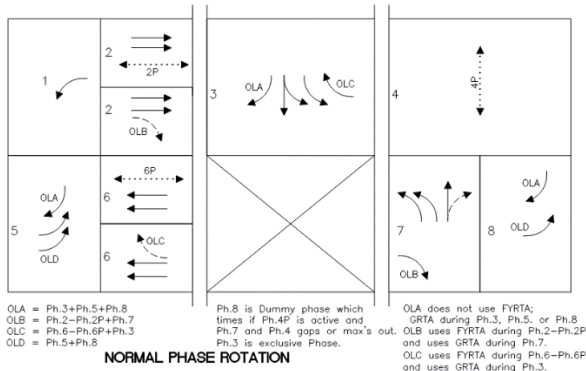


Figure 3 Mainline Left Phase 5 Serves with Non-Conflicting Pedestrian Phase

## Applicability to the Industry

After completion of the project, which included significant capacity improvements and lane configuration changes along the corridor, the consultant team worked closely with the County Traffic Engineer in programming seven signal databases into Trafficware controllers and ensured efficient and safe operations at the seven locations. DKS led the development and implementation of the signal coordination plans of 13 signals along the Sunnyside Road corridor and supported the Synchro Green adaptive implementation of the same 13 signals.

With multi-agency coordination, the project team ensured that the needs of all stakeholders were addressed and appropriately incorporated into the final design and provided engineering support and inspection during construction.

The unique and innovative phasing design concepts at several locations on this project are great examples of how a traffic signal can be designed for similar geometry to prioritize pedestrians and bicyclists while maintaining or increasing signal efficiency. They could be either directly applicable to the industry or at least be inspiring to other traffic engineers facing similar challenges.