

CO21 (Powers Boulevard) and Research Parkway Interchange



Colorado Department of Transportation

January 2020 eNewsletter

In response to growth in the northeast area of Colorado Springs along the Powers Boulevard Corridor, the Colorado Department of Transportation (CDOT) is constructing a new interchange at Powers Boulevard and Research Parkway. This project is part of an on-going CDOT effort to improve interchanges along the Powers Boulevard Corridor.

Construction of the Powers Boulevard and Research Interchange Receives Construction Funding



In late 2019, the State Transportation Commission approved approximately \$40 million to fund construction of the new Powers Boulevard and Research Interchange. Construction is anticipated to start summer 2020.

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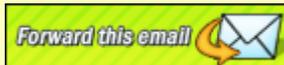
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"CDOT is excited to see that the Transportation Commission provided construction funding for the construction of this important project, as well as funding to re-pave a 3-mile portion of CO 21-Powers Blvd," said CDOT Region 2 Transportation Director Karen Rowe. "CDOT is anticipating to have a contractor on board by Summer 2020 who will then conduct a public meeting on proposed construction phasing."



Please forward/share this email with others who may have an interest in the Powers and Research Interchange project.

The Colorado Department of Transportation (CDOT) completed the design of the Powers Boulevard and Research Parkway Interchange last fall.

The project is intended to produce the following improvements:

- Increase capacity - in and around the reconstructed intersection
- Improve safety
- Higher level of service
- Improve riding surface (smoother and stronger pavement)
- Bridge replacement
- Resurfacing, restoration, rehabilitation
- Reconstruction

Project Location

The project is located in El Paso County on Colorado Highway 21 (CO 21) (Powers Boulevard) between milepost 149 and 151 and Research Parkway between Scarborough Drive and Cross Creek Drive.

Background and Current Conditions

Project Schedule

Phase 1: Re-evaluation and DDI Preliminary Design:

The initial design of the interchange was approved in 1997 as part of the Powers Boulevard Extension North, Woodmen Road to Interstate-25 Environmental Assessment (EA). The

Completed Summer 2018
Phase 2: Final DDI Design:
Completed Late 2019
Funding availability
announcement: Winter 2019
Stakeholder and property
owner outreach: 2018-2020
Contractor selected:
Summer 2020
Public Meeting: Summer
2020
Construction Begins:
Summer 2020

EA defines a plan to address the needs within the Powers/Research intersection limits. CDOT is required to implement the Powers/Research grade separated traffic solution and has completed a re-evaluation including additional screening and analysis of interchange design alternatives. The planning and design process is in compliance with the National Environmental Policy Act (NEPA).

The current configuration is an at-grade signalized intersection. Key issues at this intersection:

- excessive vehicle wait times,
- inadequate left turn lanes,
- multimodal movements are not currently well-accommodated, and
- excessive vehicular congestion

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To receive future Powers and Research Interchange project eNewsletters send an email to sh21powersresearch@gmail.com

Project Partners

- Colorado Department of Transportation
- Federal Highway Administration
- City of Colorado Springs
- El Paso County
- The Community

Funding

State of Colorado revenues from a safety fee placed on vehicle registrations have helped fund this project.

DDI Interchange Design



Various alternative interchange types were analyzed for this interchange. Based upon the Value Engineering study (completed in summer 2018) the design alternative selected for this intersection is a Diverging Diamond Interchange (DDI). While a similar design as the Fillmore/I-25 Interchange, this DDI will have more distance between the signalized intersections and Powers Boulevard will not have traffic lights; traffic will travel over Research Boulevard at 65 mph.



A Diverging Diamond Interchange (DDI) is a type of diamond interchange in which the two directions of traffic on the

Funding sources for the project:

Bridge Enterprise

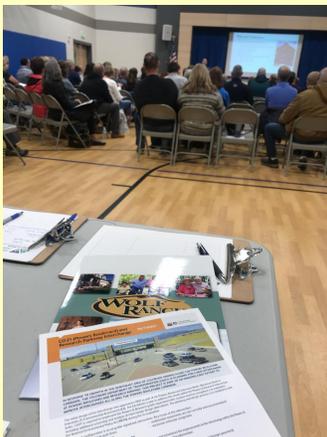
RAMP (Responsible Acceleration of Maintenance and Partnerships)

non-freeway road (Research Parkway) cross to the opposite side on both sides of the bridge at the freeway (Powers Boulevard). It is unusual in that it requires traffic on Research Parkway to briefly drive on the opposite side of the road from what is customary. The crossover "X" sections can either be traffic-light intersections or one-side overpasses to travel above the opposite lanes without stopping, to allow nonstop traffic flow when relatively sparse traffic.

Public Engagement



CDOT Project Engineer Andrew Stecklein shares information at August 2019 Liberty High School "Back to School" Night



Powers/Research Interchange Project Team provides information at Wolf Ranch Owner's Association meeting in November 2019.

The advantages for this type of intersection are:

- Two-phase signals with short cycle lengths, significantly reducing delay
- Reduced horizontal curvature reduces the risk of off-road crashes
- Increases the capacity of turning movements to and from the ramps
- Potentially reduces the number of lanes on the crossroad, minimizing space consumption
- Reduces the number of conflict points; thus, theoretically improving safety
- Increases the capacity of an existing overpass or underpass, by removing the need for turn lanes
- Requires less land space than most other interchange designs
- Costs significantly less to construction than other interchange designs



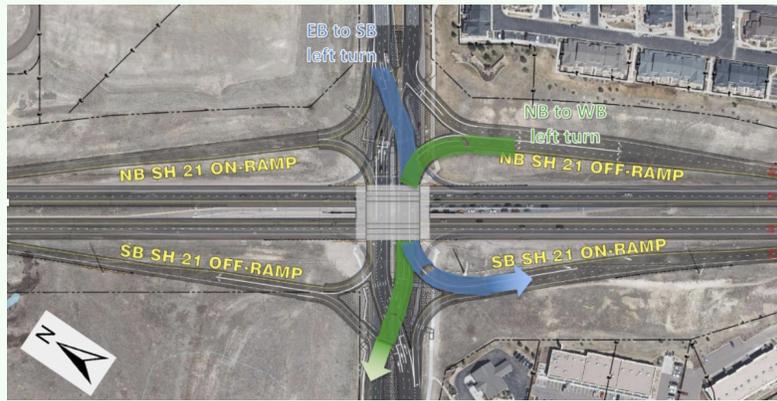
CDOT's New Double Diamond: How to Drive a Diverging Diamond Interchange

Although DDIs can seem confusing in an aerial view, traveling through them is extremely efficient. Motorists simply follow the pavement markings, signage and traffic signals just like any other intersection.

DDI Operations - Handles high left turn volume with a "free left"

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DDI Pedestrian Safety - Pedestrians cross only 4 signal-controlled points



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