



Department Source: Public Works

To: City Council

From: City Manager & Staff

Council Meeting Date: July 3, 2017

Re: Public Hearing – Vandiver Drive and Parker Street Roundabout Project

Executive Summary

A public hearing will be held for the construction of the Vandiver Drive and Parker Street roundabout project, as shown on the attached location map. An Interested Parties (IP) meeting was held on May 10, 2017. The CIP cost estimate for the project is \$900,000.

Discussion

The Vandiver Drive and Parker Street intersection improvement project was identified in the 10-year plan for the 0.25% Capital Improvement Sales Tax ballot. The proposed roundabout is located at the intersection of Vandiver Drive and Parker Street on the north side of Interstate 70. Vandiver Drive is classified as a Minor Arterial, and Parker Street is classified as a Minor Arterial to the south and a Neighborhood Collector to the north, in both the Columbia Area Transportation Study Organization (CATSO) 2030 Major Thoroughfare Plan and the City Major Roadway Plan.

Parker Street to the north is utilized primarily by local traffic, and to the south, serves as a minor connection to MO Route B and adjacent property. This south section of Parker Street eventually turns to Heriford Road in an east-west direction. There is a 1,000 ft. section of paved, but otherwise unimproved section of Heriford Road between Vandiver Drive and Route B. Adjacent property development includes a large office complex and parcels owned by Columbia Honda (commercial zoning) to the southwest. Veterans United currently has a facility located at 1512 Heriford Road with 250 employees. In September of 2017, they plan to move those employees to a new location at 1500 Vandiver Drive, and the new facility has the capacity for a total of 675 employees. To the southeast is an undeveloped (commercial zoning) lot. Residential property to the northeast is mostly built out with very little additional planned development. There is a mobile home park to the northwest.

The necessity of intersection improvements at Vandiver Drive and Parker Street is prompted by safety concerns. Currently, this four way intersection has a single lane on Parker Street in each direction, and one through lane and a left turn lane on Vandiver Drive in each direction, with a two-way stop on Parker Street. From January 1, 2011 to December 31, 2015, there were a total of 14 reported collisions at the intersection with six reported injuries over the five year period (no fatal collisions). A collision diagram is attached.

Staff recommends a roundabout be constructed at this intersection primarily due to safety concerns as well as for the following considerations:



City of Columbia

701 East Broadway, Columbia, Missouri 65201

- A four-leg single-lane roundabout has 75% fewer vehicle conflict points compared to the 4-way stop.
- The geometry of roundabouts provide for slow entry speeds and consistent speeds through the roundabout by using deflection.
- The severity of a collision is determined largely by the speed and angle of impact. A roundabout changes the geometry of the roadway in a way that forces drivers to slow down and alter their direction. This results in fewer and less severe collisions.
- A pedestrian crossing the existing intersection faces seven potential vehicular conflicts, each coming from a different direction. A pedestrian crossing a roundabout will face two potential vehicular conflicts. The first potential conflict will be coming from the left, with a refuge on the median island, before facing the other potential conflict, which will be coming from the right.
- Vehicular speeds are lower in a roundabout allowing more time for vehicles and pedestrians to react, which reduces the consequences of error.
- The crosswalks are set back at the roundabout to allow drivers more time to react to pedestrians while merging into or out of the roundabout.
- Roundabouts bring conflicting traffic streams into a steady flow and allow vehicles to merge without the stop-and-go conditions.
- Roundabouts eliminate left turns thus eliminating the collisions caused by left-turn movements.

This proposed intersection improvement project consists of a 140 ft. diameter inscribed circle single-lane roundabout. This design also includes splitter islands and a 5 ft. sidewalk placed 4 ft. off the back of the curb on the SE and NW corner, and 6 ft. sidewalk placed along the back of the curb on the SW and NE corner. The roundabout will be designed to accommodate larger commercial vehicles and school busses. To improve sight distance, an additional 300 ft. of the west leg of the roundabout on Vandiver Drive will be reconstructed, and street lighting will be installed. Bicycles currently share the vehicle lanes on Parker Street, whereas the bicycle lanes are marked on Vandiver Drive. Modification of some of the bicycle marking will be pursued to indicate shared space on Vandiver Drive at the roundabout. Additional permanent street easements and temporary construction easements from all four corners of the proposed roundabout will be necessary for construction of the project. A copy of the preliminary plan is attached.

The CIP estimate for the project is \$900,000, and will be funded with 2018 County Road Tax Rebate and 0.25% Capital Improvement Sales Tax. Construction is planned for summer of 2019. An IP meeting was held May 10, 2017, where six (6) people signed in and fifty-three (53) comments were received with positive comments (see attached).

Fiscal Impact

Short-Term Impact: The estimated cost for this project is \$900,000 with an estimated \$382,500 from 2018 County Road Tax Rebate and the remaining funds will come from 0.25% Capital Improvement Sales Tax.

Long-Term Impact: Routine maintenance is estimated at \$2,000 per year.



Vision & Strategic Plan Impact

Vision Impacts:

Primary Impact: Transportation, Secondary Impact: Community Facilities & Services, Tertiary Impact: Environment

Strategic Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Public Safety, Tertiary Impact: Economy

Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Mobility, Connectivity, and Accessibility, Tertiary Impact: Economic Development

Legislative History

Date	Action
05/10/2017	Interested Parties meeting
06/05/2017	R68-17-Setting a public hearing for July 3, 2017 for the proposed construction of the Vandiver Drive and Parker Street roundabout improvement project.

Suggested Council Action

If, after receiving public comment, Council wishes to proceed with the project a motion should be made directing staff to proceed with final plans and specifications for construction of the Vandiver Drive and Parker Street roundabout improvement project.