CITY OF WASHINGTON, ILLINOIS
Committee of the Whole Agenda Communication

Meeting Date: April 12, 2021

Prepared By: Dennis Carr, P.E. – City Engineer
and TERRA Engineering

Agenda Item: Freedom/Lakeshore Roundabout versus T-Intersection

Background: When the City applied for state assistance with funding the middle section of Freedom Parkway, the project had shown the use of a roundabout at the Freedom/Lakeshore intersection. The use of the roundabout added to the strength of our application and was a reason for the project being selected.

Intersection Safety: Roundabouts have been constructed in several of the nearby cities so local residents have most likely used them and are aware of their operation. Studies have shown that roundabouts are safer than traditional stop sign or signal-controlled intersection. Studies by the Institute for Highway Safety and Federal Highway Administration have shown that roundabouts typically achieve:

- A 37% reduction in overall collisions
- A 75% reduction in injury collisions
- A 90% reduction in fatality collisions
- A 40% reduction in pedestrian collisions

Roundabouts achieve these safety benefits by forcing low speeds through the intersection, reducing the potential conflict points, and eliminating the "beat the light" incentive.

Overall, roundabouts offer safety benefits, long term traffic capacity, and environmental benefits. However, they require a larger footprint (more right-of-way), and may not be as familiar or comfortable for some drivers.

TERRA Engineering previously put together a presentation for council on roundabouts and their increased safety aspects to both drivers and pedestrians during the Nofsinger realignment project. Staff wants to get a consensus on the use of a roundabout at the Freedom/Lakeshore intersection so that TERRA has proper direction in the Phase 2 design.

Intersection Operations: The T-Intersection would operate satisfactorily with Lakeshore being constructed to Bus 24. In this scenario, the Lakeshore Drive approach would have a stop sign and Freedom would be free flow through the intersection. There may be a north leg to this intersection in the future to serve developments. Long term potential traffic might meet warrants for a signalized intersection which can cost around ¼ to ½ million dollars and would be entirely locally funded. The roundabout would continue to operate very well regardless of the construction of southern or northern legs of Lakeshore and would accommodate the long-term traffic growth.

Construction Planning: The optimum time to construct a roundabout is during the initial construction of the road. Constructing a roundabout under live traffic is extremely difficult and expensive with the removal and replacement of pavement, curb and gutter, and drainage systems.

Intersection Location: The original intersection location was determined based on aligning the proposed Lakeshore right-of-way with the existing parcel boundaries. However, both potential intersection types are now shown 60-ft west of the original location due to conflicts with Ameren underground vaults that were not there at the time that Austin originally surveyed this project. The vault in conflict with the original intersection location is roughly 8 ft by 13 ft by 8 ft. The construction of Lakeshore in the future would require right-of-way acquisition from the southwest property owner but the new proposed alignment lines up with the Lakeshore/Bus 24 intersection. To keep the intersection where it was initially shown and with Ameren facilities located within a private easement, the City would have to pay approximately $500,000 to relocate the underground Ameren vault and the transmission pole.

Fiscal Impact: The construction of a T intersection and its approaches would cost roughly $700,000. The construction of a roundabout would cost approximately 15% to 20% more. This cost was included in the previous estimates for Freedom and the Tri-County funding application.

Recommendation Summary: Staff requests City Council openly discuss the future direction of this intersection so that we can give TERRA solid direction on the Phase 2 Design.

Action Requested: Discussion and Direction

Legend

- Existing Right-of-Way
- Existing Easement
- Proposed Right-of-Way
- Proposed Temporary Easement
- Parcel Boundary

N

Speck, Edward K

Kingsbury Properties LLC
02-02-16-400-035

Proposed Freedom Parkway

Miller, Samuel
02-02-16-400-046

02-02-15-300-022

Ameren Underground Vault

Ameren Power Pole

Kingsbury Properties LLC

Menards

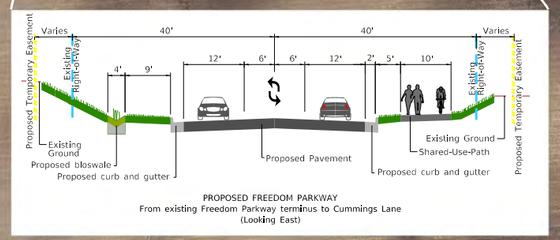
Miller, Samuel
02-02-16-400-046

02-02-16-400-047

02-02-15-301-018

Proposed Lakeshore Drive

Kingsbury Properties LLC
02-02-16-400-035



PROPOSED FREEDOM PARKWAY
From existing Freedom Parkway terminus to Cummings Lane
(Looking East)

IVP Properties LLC
02-02-16-400-027

Cummings Lane

IVP Plastics

IVP Properties LLC
02-02-16-400-024

02-02-16-301-001

Freedom Parkway

02-02-16-301-002

Walmart
02-02-16-301-006

Mini-Max Storage Co.

Metzger, Delores A

02-02-16-400-029

PNC BANK
02-02-16-301-003

Joseph, David S Trustee

02-02-16-400-026

02-02-16-400-028

Cherry Tree Plaza, LLC

Ameren/Cilco
02-02-16-400-003

McClugage Road (Bus. US 24)

Washington Road (Bus. US 24)

TERRA ENGINEERING LTD.

City of Washington

Freedom Parkway Extension

0 150 300
SCALE IN FEET

Project Overview
Roundabout, Shifted West
DRAFT 3/31/2021

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02-02-16-400-027

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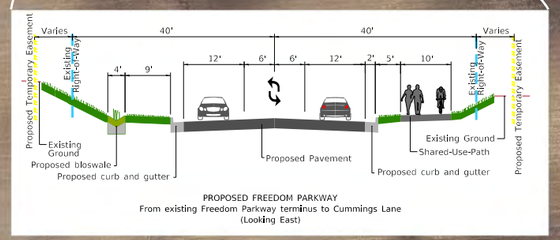

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DRAFT 3/31/2021