



Department Source: Information Technology

To: City Council

From: City Manager & Staff

Council Meeting Date: January 3, 2022

Re: Authorization for City participation in the Missouri Highways and Transportation Commission Global Navigation Satellite Real Time Network

Executive Summary

This ordinance will authorize the City of Columbia to participate in the Missouri Highways and Transportation Commissions (MHTC) Global Navigation Satellite Real Time Network. Participation in the Network improves the City's global positioning system (GPS) data and allows the GIS division of the Information Technology Department to provide better products and services to the city and its citizens.

Discussion

Participation in MHTC's Global Navigation Satellite Real Time Network (Network) improves the accuracy of GPS and GIS data. MHTC's Network consists of 82 electronic sensors spread across the entire state of Missouri and into Arkansas and Tennessee. These sensors are permanently installed, and have exact and provable coordinates along the curvature of the earth. The sensors enhance accuracy of user-captured GPS coordinates.

Connection to the Network allows for the correction for common errors in current satellite navigation systems. Participation in the Network allows users to retrieve Real Time Correction Broadcasts in Radio Technical Commission for Maritime Services format for the stations in real time or as a download for GPS data post-processing. It uses measurements of the phase of the signal's carrier wave in addition to the information content of the signal and relies on a single reference station or interpolated virtual station to provide real-time corrections, providing up to centimeter-level accuracy, rather than meter accuracy achieved in most stand-alone devices. It has applications in land survey, hydrographic survey, and in unmanned aerial vehicle navigation.

This ordinance authorizes the City of Columbia to participate in MHTC's Global Navigation Satellite Real Time Network and authorizes the City Manager and the City Counselor to execute additional documents, certifications and assurances to the MHTC in order to join the Network and to designate system users.

Fiscal Impact

Short-Term Impact: \$0; There is no cost associated with joining the Network

Long-Term Impact: \$0; There are no long-term costs associated with joining the Network



Strategic & Comprehensive Plan Impact

Strategic Plan Impacts:

Primary Impact: Reliable Infrastructure, Secondary Impact: Organizational Excellence,
Tertiary Impact: Not Applicable

Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Not applicable, Tertiary Impact: Not
Applicable

Legislative History

Date	Action

Suggested Council Action

Staff recommends the passage of the ordinance.