

Date: April 26, 2023

To: Board of Directors

From: Sam Desue, Jr.

Subject: RESOLUTION NO. 23-04-14 OF THE TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON (TRIMET) AUTHORIZING A CONTRACT MODIFICATION WITH DKS ASSOCIATES, INC. (DKS) FOR NEXT GENERATION TRANSIT SIGNAL PRIORITY CONSULTING SERVICES

1. Purpose of Item

This Resolution requests that the TriMet Board of Directors (Board) authorize the General Manager or his designee to execute a contract modification (Modification) with DKS Associates, Inc. (DKS) for next generation transit signal priority consulting services.

Type of Agenda Item

- Initial Contract
- Contract Modification
- Other _____

2. Type of Contract Procurement

- Low Bid / Invitation to Bid (ITB)
- Request for Proposals (RFP) (inc. CM/GC)
- Request for Qualifications (RFQ) (Personal Services)
- Other (inc. sole source):

3. Reason for Board Action

Board authorization is required for all contract modifications causing contract amounts to exceed amounts previously authorized by the Board.

4. Type of Action

- Resolution
- Ordinance 1st Reading
- Ordinance 2nd Reading
- Other _____

5. Background

The FX2 Division high-capacity express bus service along SE Division Street opened on September 18, 2022, and Next Generation Transit Signal Priority (TSP) plays an important part in reducing travel times on the new service. TriMet’s new TSP system is based on a cloud-based software platform provided by SinWaves, Inc. dba LYT, which uses connected vehicles and machine learning to prioritize the flow of traffic in transit corridors. LYT’s cloud-based TSP system has enabled coordination of traffic signal systems along SE Division to help buses move more efficiently. Since the FX2 Division line opened, the TSP system

has effectively prioritized bus traffic on the corridor, helping the FX2 to meet travel time objectives, and TriMet's Information Technology Division plans to expand the TSP system to other parts of the transit District.

TriMet's implementation of LYT's TSP service includes a number of groundbreaking innovations. One powerful new feature is the ability to provide a "bus-only" green, which allows a right-turn-only lane to also function as a dedicated bus lane. Cars in this lane must turn right, but buses get a special signal that allows them to go straight. In this way, LYT's TSP system can "flush" the right-turn lane by giving cars a green turn arrow and allow buses to proceed straight through the intersection. This smart system provides benefits of both a dedicated bus lane and a dedicated turn lane, without having to build both lanes.

In the vast majority of cases, this system works as designed. However, in field testing TriMet discovered a rare but significant challenge: when travel in the lane is disrupted near an intersection (for example by construction in the lane, police activity, accidents or temporary loss of power to the signals), a bus can become "stuck" in the right-turn lane. When this happens, TriMet's Bus Dispatch service must direct buses to use regular lanes. Unfortunately, Dispatch has no way of knowing when this situation is occurring in the field until a bus is already stuck and the operator calls for help. This situation can lead to long delays, blocking traffic in the turn lane for several light cycles.

The additional work to be funded by this Modification will mitigate this "stuck bus" situation by automatically notifying Dispatch of a disruption near an intersection and improve its ability to respond. For this mitigation, Dispatch will use data from the Portland Bureau of Transportation (PBOT) controller and the LYT cloud. The benefits of this mitigation also will accrue to future FX lines that TriMet may develop.

The Modification proposed by this Resolution will increase the amount of the DKS contract from the current \$1,300,000 to a new total amount of \$1,600,000, and extend the contract expiration date from September 24, 2023 to December 31, 2024. If the Modification is approved, \$250,000 will be allocated for additional consulting services for the planning, testing and implementation necessary to integrate the LYT TSP data with TriMet's Bus Dispatch System. The amount of \$50,000 will be allocated to pay for additional traffic engineering studies not in the contract's original scope, as requested by PBOT, TriMet's traffic partner for the FX2 Division line.

6. Description of Procurement Process

This contract was procured via a Request for Proposal (RFP) process.

7. Diversity

The DKS workforce is 27.5% minority and 44.2% female.

8. Financial/Budget Impact

The cost of this Modification can be accommodated by the existing Information Technology Division budget for the TSP project.

9. Impact if Not Approved

Failure to approve this Resolution will impair TriMet's ability to quickly respond to service disruptions in "bus only" lanes, resulting in a decrease in TSP performance on the FX2 Division line and other express bus lines that may implement the TSP system. Approval of this Modification is recommended.

RESOLUTION NO. 23-04-14

**RESOLUTION NO. 23-04-14 OF THE TRI-COUNTY METROPOLITAN
TRANSPORTATION DISTRICT OF OREGON (TRIMET) AUTHORIZING A
CONTRACT MODIFICATION WITH DKS ASSOCIATES, INC. (DKS) FOR
NEXT GENERATION TRANSIT SIGNAL PRIORITY CONSULTING
SERVICES**

WHEREAS, TriMet has authority under ORS 267.200 to enter into a contract modification with DKS Associates, Inc. (DKS) for Next Generation Transit Signal Priority consulting services (Modification); and

WHEREAS, by Resolution No. 22-05-35, dated May 25, 2022, the TriMet Board of Directors (Board) adopted a Statement of Policies requiring the Board to approve contracts obligating TriMet to pay in excess of \$1,000,000; and

WHEREAS, the total amount of this Modification exceeds the contract amount previously authorized by the Board;

NOW, THEREFORE, BE IT RESOLVED:

1. That the Contract shall conform with applicable law.
2. That the General Manager or his designee is authorized to execute a Modification to the contract with DKS, increasing the contract amount from \$1,300,000 to \$1,600,000 and changing the contract's termination date from September 24, 2023 to December 31, 2024.

Dated: April 26, 2023



Presiding Officer

Attest:



Recording Secretary

Approved as to Legal Sufficiency:



Legal Department