CITY OF SPOKANE VALLEY
Request for Council Action

Meeting Date: August 30, 2022 **Department Director Approval:** ☒

Check all that apply: ☐ consent ☐ old business ☐ new business ☐ public hearing ☐ information ☒ admin. report ☐ pending legislation ☐ executive session

AGENDA ITEM TITLE: Administrative Report - Sprague Avenue Stormwater Project

GOVERNING LEGISLATION: N/A

PREVIOUS COUNCIL ACTION TAKEN:

- October 7, 2014 – Info report on Ecology Stormwater Grant Opportunities, Call for Projects
- October 21, 2014 – Administrative Report discussing Washington State Department of Ecology stormwater grant opportunities resulting in consensus to apply for grants.
- October 11, 2016 – Administrative Report discussing Washington State Department of Ecology stormwater grant opportunities resulting in consensus to apply for grants.
- May 21, 2019 – Administrative Report regarding the details of the Water Quality Financial Assistance Agreement with the Department of Ecology
- May 28, 2019 – Council authorized execution of Water Quality Financial Assistance Agreement with the Department of Ecology
- July 5, 2022 – Council reached consensus for a future motion consideration to terminate the Agreement with Ecology
- July 19, 2022 – Motion passed to terminate Ecology grant agreement

BACKGROUND: In November 2014, the City applied to the Washington State Department of Ecology (Ecology) for a grant to improve water quality in the Spokane Valley-Rathdrum Prairie Aquifer through the installation of Low Impact Development (LID) techniques and best management practices along the two-mile segment of Sprague Avenue between University and Park Roads. Stormwater in the project area is currently collected and discharged to groundwater without pretreatment via approximately 75 drywells.

On July 7, 2015, this project was selected by the Department of Ecology for award, contingent on funding availability. In 2016, Ecology received direction from the Legislature to delay funding for 67 state-wide stormwater projects proposed to receive funding from the Stormwater Financial Assistance Program (SFAP) in SFY16 and SFY17. These delays were necessary to address a shortfall in the Model Toxics Control Act funds and were accompanied by significant reductions in both operating and capital budgets, across many environmental program areas. This stormwater project application was included on the SFY16 and SFY17 list of delayed projects. On February 21, 2018, the City was informed by Ecology that the 2017–2019 Washington State Biennial Budget successfully addressed funding shortfalls, and Ecology was authorized to resume agreement negotiations for this project.

At the time of application, the total project cost was estimated at $2M. Ecology would provide $1.5M and the City's stormwater fund was to provide $500K in matching funds. In May 2019, staff revisited the preliminary estimate and increased the potential City stormwater funding by $569,320 to account for inflationary increases from 2014 to 2019. The grant agreement with Ecology was executed in 2019. In 2021, the Spokane Transit Authority (STA) awarded the City, $163,685 to improve the crossing between City Hall and Balfour Park on Sprague Avenue (Crossing Project). Additionally, the City was awarded $556,400 for the Crossing Project from the Pedestrian & Bicycle Program (PBP). For efficiencies, the Stormwater Project and the Crossing Project were planned to be completed concurrently.

Due to limited resources, staff was unable to initialize the project until June of 2021. In the fall of 2021, the City selected a consultant firm who advanced the conceptual design to a 30% preliminary design. The City has spent $64,125 of the Ecology grant to develop a design report which was approved in early May 2022. The total project cost increased to over $5.5M. The design assumed that Sprague Avenue will be reduced to three lanes between Herald and University and to four lanes from Herald to Park Road. Currently, Sprague Avenue has five lanes within the project limits.

Due to the large funding gap needed to advance the Stormwater & Crossing projects, on July 19, 2022, Council passed a motion to terminate the Ecology grant and proceed with the Crossing Project which will include stormwater quality facilities between University and Herald Roads. Staff and Council identified that Coronavirus Local Fiscal Recovery Fund (CLFR) funds may be utilized for the Crossing Project because the project is an eligible stormwater/water quality project for the Clean Water State Revolving Fund (CWSRF) per the EPA Overview of Clean Water State Revolving Eligibilities, dated May 2016. Currently, the City Council has not allocated $1,379,386 of CLFR funds.

In August 2022, staff reached out to all businesses along the current project limits from University to Herald Roads to describe the concept for the project. Of the 22 businesses contacted, staff met with 17 in person, all were supportive of the lane reduction/pedestrian crossing project. Staff also sent information via email to four businesses and two of them provided supportive replies. The other two have not yet responded. Staff was unable to contact only one business, the Brew-Pub, which is unoccupied. Most of the businesses expressed concerns with speeding and crashes along this segment of Sprague. Some also mentioned that the existing street trees block visibility to their businesses and their signs.

Staff has been coordinating with the STA regarding the Sprague Avenue High Performance Transit (HPT) project, which includes this segment of Sprague Avenue. There are two stops within this project area, one of which will be designed as a “high performance” stop. City staff is evaluating STA’s proposal and will work to accommodate STA’s HPT improvements into the current project.

To be able to accommodate a safe pedestrian crossing and drainage facilities, staff proposes to reduce Sprague Avenue from five lanes to three lanes which is consistent with the existing lane configuration on Sprague Avenue east of University Road. During the July 15, 2022 meeting, Council requested additional information regarding the performance of a 3-lane versus 4-lane project on Sprague Avenue. Both options are expected to reduce speeds and have excess vehicle capacity. A target of the project is to reduce 85th percentile speeds from 41.1 mph to the posted speed of 35 mph or less; the 3-lane option comes closest to meeting this target based on the traffic model. However, it is expected that actual driver behavior with reduced lanes and turning traffic will result in lower speeds than the model. Based on current peak hour volumes, a 3-lane Sprague Avenue is expected to operate at 27% of capacity. The primary difference between the two options is the pedestrian crossing time. A 4-lane Sprague Avenue would take approximately 3 seconds longer to cross than a 3-lane Sprague Avenue. This creates additional exposure for pedestrians and additional delay for vehicles on Sprague Avenue. Additionally, the 4-lane project would cost more to construct due to the need for underground stormwater treatment (“Filterra” type units) instead of the planned swales with the 3-lane option.

Staff recommends setting up a pilot project for six weeks that reduces Sprague Avenue to three lanes using tubular markers. This will allow staff to observe driver behavior, measure actual vehicle speeds, and evaluate performance of the reduced section. Staff will seek public input via a project website and targeted survey.

Should City Council decide to proceed with the recommendation to implement the pilot project, staff will return thereafter to share the public input and data collected. This information will assist both staff and Council on moving forward with the project in a permanent state.

OPTIONS: 1) Consensus to move ahead with a 3-lane pilot project over the next 2 months, or 2) take other action or no action.

RECOMMENDED ACTION OR MOTION: Consensus to implement the 3-lane reduction pilot project this fall.

BUDGET/FINANCIAL IMPACTS: Staff solicited costs from four traffic control contractors to implement the pilot project with estimates ranging from $20,000 to $35,000. There are sufficient funds in the project budget to cover the costs of the pilot project.

STAFF CONTACT: Gloria Mantz, PE, City Engineer
Jerremy Clark, PE, PTOE, Traffic Engineering Manager

ATTACHMENTS: PowerPoint Presentation

Sprague Avenue Stormwater Project

Gloria Mantz, PE, City Engineer
Jerremy Clark, PE, Traffic Engineering Manager

August 30, 2022

Presentation Agenda

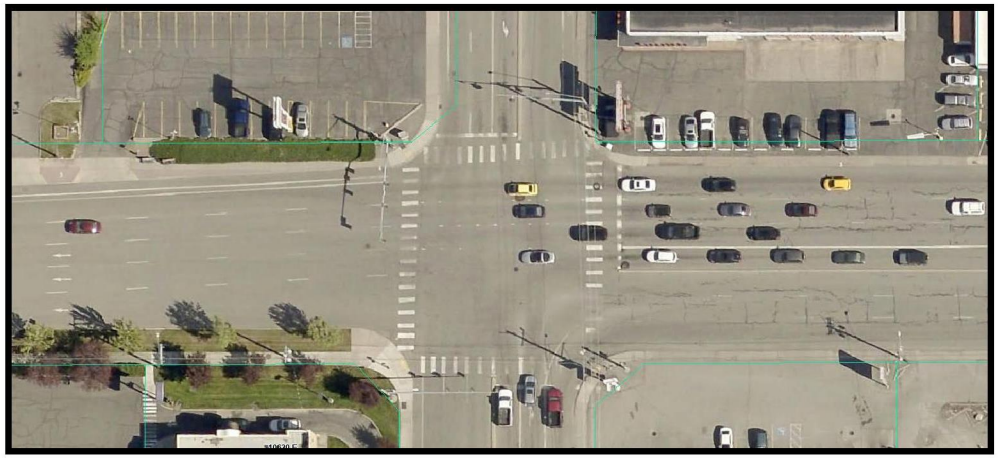
- Project Background
- Conceptual Design
- Business Outreach
- STA Coordination
- Lane Reduction Options and Comparisons
- Pilot Project and Public Input
- Next Steps

Project Background

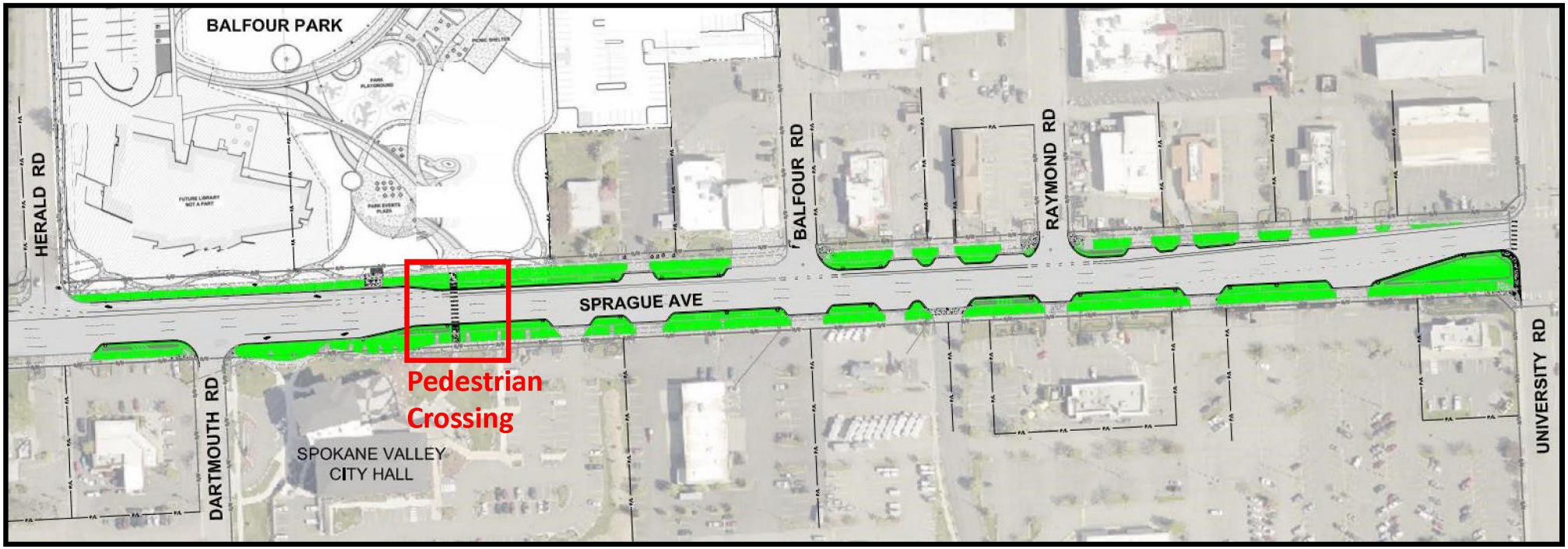
- Initial project limits – University to Park
  - Funded partially with Ecology, STA, and Pedestrian and Bike Program (PBP) grant
    - 2021 – STA awarded $163,685 for signalized pedestrian crossing
    - 2022 – PBP awarded $556,400 for signalized pedestrian crossing
  - Provides stormwater infrastructure and pedestrian crossing between City Hall and Balfour Park
  - Project cost ~$5.5M (updated in 2022)
  - Due to funding gap, Council authorized terminating Ecology grant
- New project limits – University to Herald
  - Funded partially STA, and PBP grant
  - Eligible for CLFR funds
  - Provides stormwater infrastructure and pedestrian crossing between City Hall and Balfour Park

Project Background

- Sprague Avenue has five lanes between University and Herald and 3 lanes east of University
  - Relatively low volumes and high speeds
- Project proposes lane reduction along project limits
  - Provide safe pedestrian crossing
  - Shorter crossing distance
  - Vehicle speed reduction
  - Allows placement of stormwater facilities within the existing ROW



Conceptual Design Plan – Lane Reduction & Crossing Project



Conceptual Rendering – Lane Reduction & Crossing Project

Business Outreach

- Contacted 22 businesses between University and Herald
  - Met with 17 businesses in person
  - Emailed project information to 4 others and University City "landlord"
  - Only one business was not contacted since it is unoccupied
- Businesses support the project and lane reduction
- Businesses are concerned with:
  - Existing high vehicle speeds and crashes
  - Sign visibility due to trees

STA Coordination

- Sprague Avenue High Performance Transit (HPT)
  - Valley Transit Center to STA Plaza
  - "High Performance" stop at University/Sprague
  - Regular stop at City Hall/Library
  - Staff are coordinating with the project team for transit signal priority and business, access, and transit (BAT) lanes along Sprague Avenue

Sprague Avenue – Current Operations (2021)

- Vehicle Volumes
  - 1,180 peak vehicles per hour
  - 20 vehicles per minute
  - 0.33 vehicles per second
  - 0.07 vehicles per second per lane
- Vehicle Speeds
  - Average: 35.7 mph
  - 85th percentile: 41.1 mph
  - **120 vehicles per day over 50 mph**

Existing
Volume to Capacity Ratio
(v/c)=
0.20 (20%)

Lane Reduction Options and Comparisons

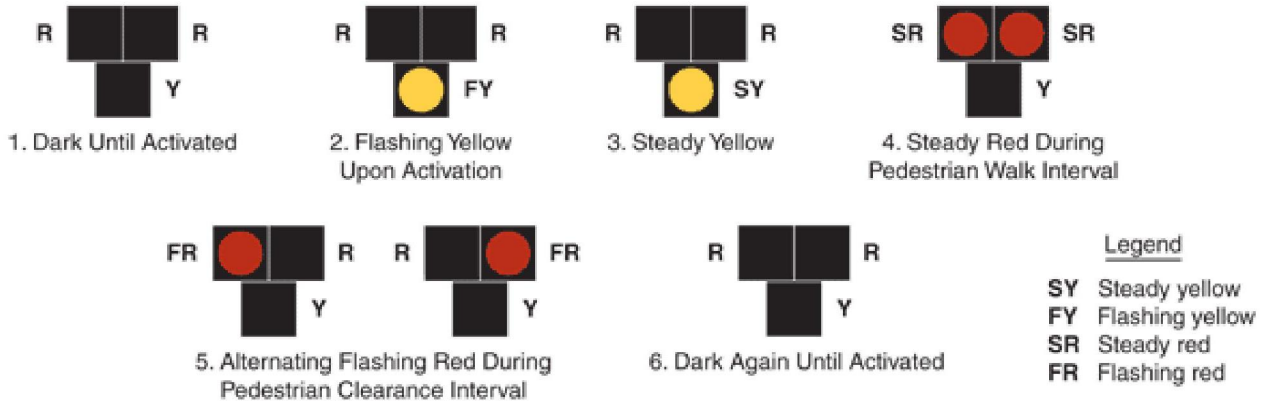
- Vehicle Speeds:
  - Target Speed: Reduce travel speeds to posted speed (35 mph)
  - 3-lane Sprague – 9.3% expected reduction in speeds ~ 37.2 mph
  - 4-lane Sprague – 8.1% expected reduction in speeds ~ 37.8 mph
- Roadway Capacity:
  - 3-lane Sprague – Volume to Capacity Ratio of 27%
  - 4-lane Sprague – Volume to Capacity Ratio of 22%
- Both options can accomodate the traffic
- 3-lane Sprague is more effective at speed reduction

Lane Reduction Options and Comparisons

- Pedestrian Crossing
  - Crossing time = FY + SY + SR + FR
  - 3-lane Sprague (45 feet) = 5+3+7+12.9=27.9 seconds
  - 4-lane Sprague (57 feet) = 5+3+7+16.3=31.3 seconds

Additional 3 seconds of pedestrian exposure for a 4-lane crossing

Figure 4F-3. Sequence for a Pedestrian Hybrid Beacon



Lane Reduction Options and Comparisons

- Stormwater Treatment
  - 3-lane Configuration
    - Conventional Drainage Swales
    - Lower Installation Cost
    - Higher Maintenance Cost
  - 4-lane Configuration
    - Filterra Underground System
    - Higher Installation Cost
    - Lower Maintenance Cost

Lane Reduction Options and Comparisons

	3-Lane	4-Lane
Vehicle Speeds	lower	higher
Vehicle Capacity*	excess	excess
Ped Crossing Time	shorter	longer
Construction Cost	lower	higher
Ongoing Maintenance Costs	higher	lower

*Both options have excess vehicle capacity

Pilot Project – Sept 19 to Oct 28

- Use tubular markers to reduce Sprague to 3 vehicle lanes
- Maintain driveway access and bicycle lane
- Adjust signals to convert left turn only lane
- Observe vehicles and driver behavior
- Measure volumes and speeds
- Solicit targeted feedback from drivers

Next Steps

- Consensus to move ahead with the 3-Lane Pilot project this fall
  - Report to Council results of Pilot Study early November
  - Allocate CLFR funds to the project
  - Construction 2023 or 2024, if Approved
- Questions