

**Spring Valley Village City Council
Agenda Item Data Sheet**

MEETING DATE: May 25, 2021

TOPIC: **Implementation of a Road Diet for Bingle Road through the City Limits to Connect to a New Road Diet Being Implemented by City of Houston and as Recommended by Traffic Engineers, Inc. (“TEI”).**

BACKGROUND: In March of this year, I received a lengthy Traffic Analysis of Bingle Road from Westview Drive to I-10 from Traffic Engineers, Inc. (“TEI”). Due to the size of the document, only the Executive Summary from the TEI Report has been included with this agenda item. One of the recommendations from TEI in its evaluation of the Bingle Road Corridor was the implementation of a “road diet” for Bingle Road from Westview Drive to the I-10 Feeder Road that would convert the current four-lane roadway to a three-lane roadway with directional bike lanes through re-striping. Reserving a section of pavement that could serve as either a future bike lane or simply a buffer between vehicular traffic and the existing sidewalks would improve safety for pedestrians. Additionally, implementing a road diet would not negatively impact vehicular operations on Bingle Road.

City of Houston Proposed Bingle Road Road Diet

On April 13, 2021, I received an email from the City of Houston Public Works Department that they are proposing a “road diet” for Bingle Road from just south of Long Point Road and south to the Spring Branch bridge. The project will be re-striping only and not re-construction. The proposed “road diet” or re-striping would take Bingle Road from four lanes to three lanes with the intent to enhance safety and accessibility for stakeholders along that section of Bingle Road. The City of Houston held a virtual public meeting on May 4, 2021, and I attended to obtain more information on what was being proposed. A copy of the City of Houston’s PowerPoint Presentation is provided with this agenda item.

The City of Houston’s original plan was to transition the striping back to the existing 4-lane cross section just north of the Spring Branch bridge. However, due to possible flow benefits, the City of Houston contacted the City of Spring Valley Village to inquire about the possible benefits of extending the 3-lane cross section to the intersection with Westview Drive.

Timing

The City of Houston anticipates that the Bingle Road road diet project will take approximately 4-6 months to complete.

The City of Spring Valley Village is already planning to begin the annual restriping of the major thoroughfares, including Bingle

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Road, in the next couple of months. If Council wishes to proceed with implementing a road diet on Bingle Road to connect to the anticipated road diet to be implemented by the City of Houston, it would be most cost-effective to include that restriping in the annual restriping project. Consequently, the Spring Valley Village section of the Bingle Road road diet would be in place by the time the City of Houston proceeds with its section.

RECOMMENDATION: Staff requests direction from Council on whether it wishes to proceed with implementing a road diet on Bingle Road from Spring Branch Creek to the I-10 Feeder Road to connect to the proposed new road diet being implemented by City of Houston on Bingle Road from Spring Branch bridge north to Long Point Road and as recommended by TEI.

ATTACHMENTS:

- Executive Summary from Traffic Engineers, Inc. (TEI) Report
- City of Houston PowerPoint Presentation on Proposed Bingle Road Traffic Improvements (Road Diet) from Virtual Public Meeting Held on May 4, 2021

FUNDING ISSUES:

Not applicable – no dollars are being spent or received.

Full amount already budgeted in Acct/Project# _____

Not budgeted, if approved, the following will be included in the next Budget Amendment:

\$_____ from Acct/Project# _____ will be transferred to Acct/Project# _____

\$_____ from unassigned fund balance will be used and added to Acct/Project# _____

\$_____ will be added to Revenue Acct# __-__ and \$_____ added to Expenditure Acct/Project# _____

FINANCE VERIFICATION OF FUNDING:

Pat Riley

SUBMITTING STAFF MEMBER:
Pat Riley, Director of Public Works

CITY ADMINISTRATOR APPROVAL:

William Roberts

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Executive Summary

The study indicated that the Bingle Road corridor has the capacity to support natural growth in traffic volumes as well as improved bicycle and pedestrian infrastructure. Key findings from the traffic modeling study include the following:

General Observations:

- Speeds along the corridor average right around the speed limit of 30 mph, with an 85th percentile speed being approximately 5 miles above the posted speed limit. While the average speeds are not a severe issue, some speeding does occur.
- Please refer to the *Recommendations on Sidewalk Safety Improvements Along Bingle Road*, dated May 13, 2020, for more information regarding the sidewalks on Bingle Road of concern.

Short-term Improvements:

- Bingle Road currently operates well with good signal progression through the corridor. Improvements to signal timings and cycle lengths may improve side street operations, reducing the delay felt exiting residential neighborhoods onto Bingle Road. These changes would not negatively impact Bingle Road operations.
 - Reducing the cycle length from the existing 90 seconds to 60 seconds at the W. Memorial Park Drive and Winningham Lane intersections will improve coordination with the 120-second cycle length of the IH-10 intersection. Side street traffic delay will decrease and progression along Bingle Road would slightly improve. Detailed changes of the timing parameters will be studied if the City approves this strategy.

Long-term Planning Considerations:

- A signalized pedestrian crossing does not significantly impact the progression of vehicles through the corridor and greatly improves crossing safety.
 - A signalized intersection, such as a HAWK (High-Intensity Activated Crosswalk), would provide a controlled crossing for pedestrians to safely navigate.
 - The exact location of the signal, at Merlin Drive, Cedarbrake Drive, or somewhere in-between, does not impact the traffic operations of the corridor based on the model. The location will impact usage and compliance.
- A road diet, converting the four-lane roadway to a three-lane roadway with directional bike lanes, does not show to have significant impact to vehicle operations.
 - Bingle Road currently serves approximately 19,000 vehicles per day with its four-lane (two lanes in each direction), undivided cross-section. Based on general engineering rules-of-thumb, the current ADT can be supported by a two-lane roadway. This is based on the *Highway Capacity Manual* free-flow saturation flow rate of 2,000 vehicles per hour per lane (vphpl) with adjustments for signals, peak hour factors, and heavy vehicle percentages; each lane of an urban street can support approximately 800 vphpl.
 - The road diet would support the addition of directional bike lanes along the corridor which would significantly improve bicycle safety and promote additional cyclists to use the facility if they were not comfortable sharing the road with vehicles. The addition of the bike lanes will also provide buffer space for the existing sidewalks built against the curbs and encourage drivers to slow down through this residential area.
 - The crossing distance for pedestrians crossing Bingle Road would be reduced, reducing pedestrian and vehicle conflict points and decrease the time pedestrians and vehicles must interact. This translates to safer pedestrian conditions along the corridor.

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Bingle Road Traffic Improvements

Virtual Public Meeting

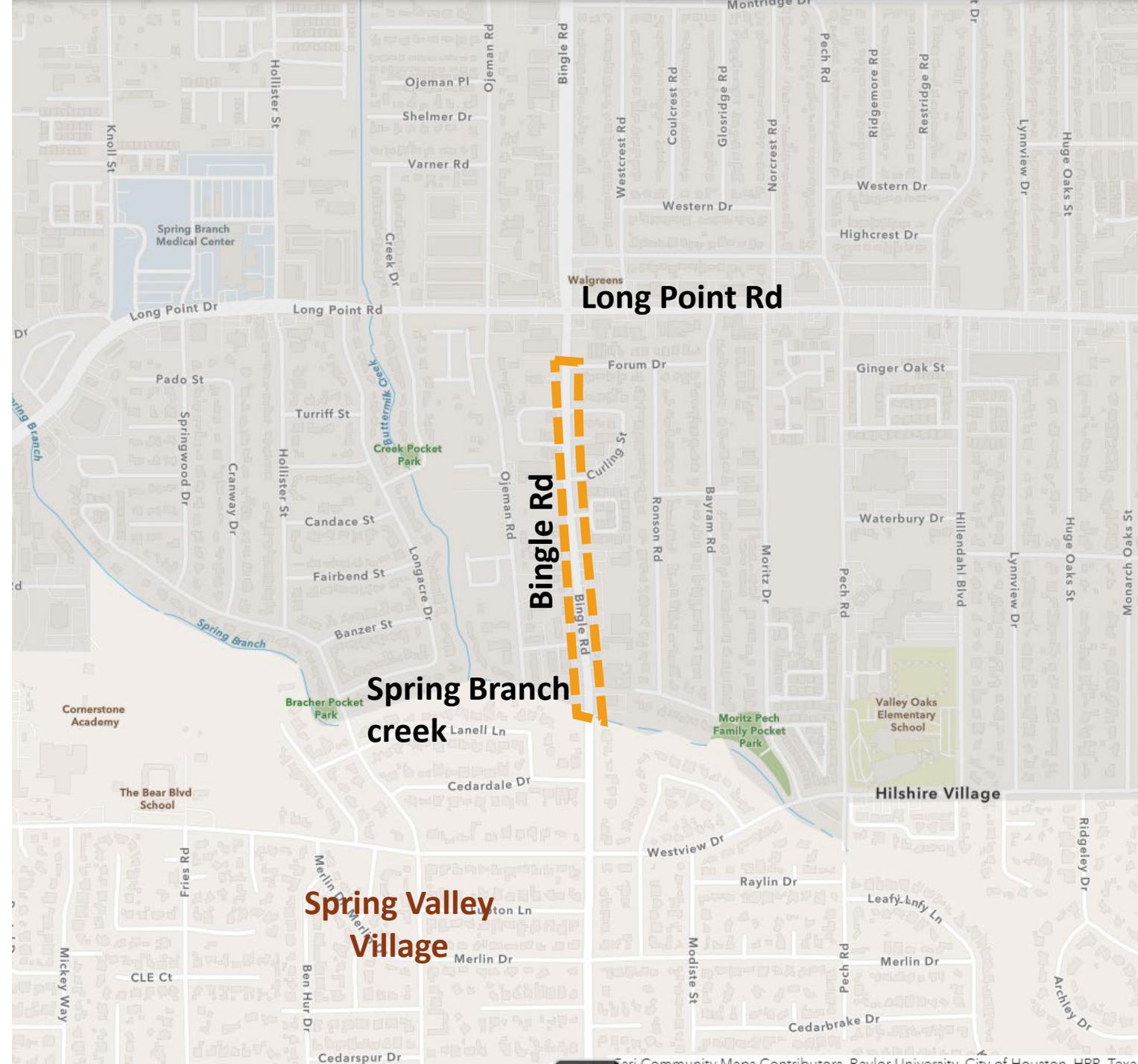
Tuesday, May 4, 2021

<http://bit.ly/BingleHOU>

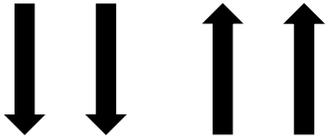
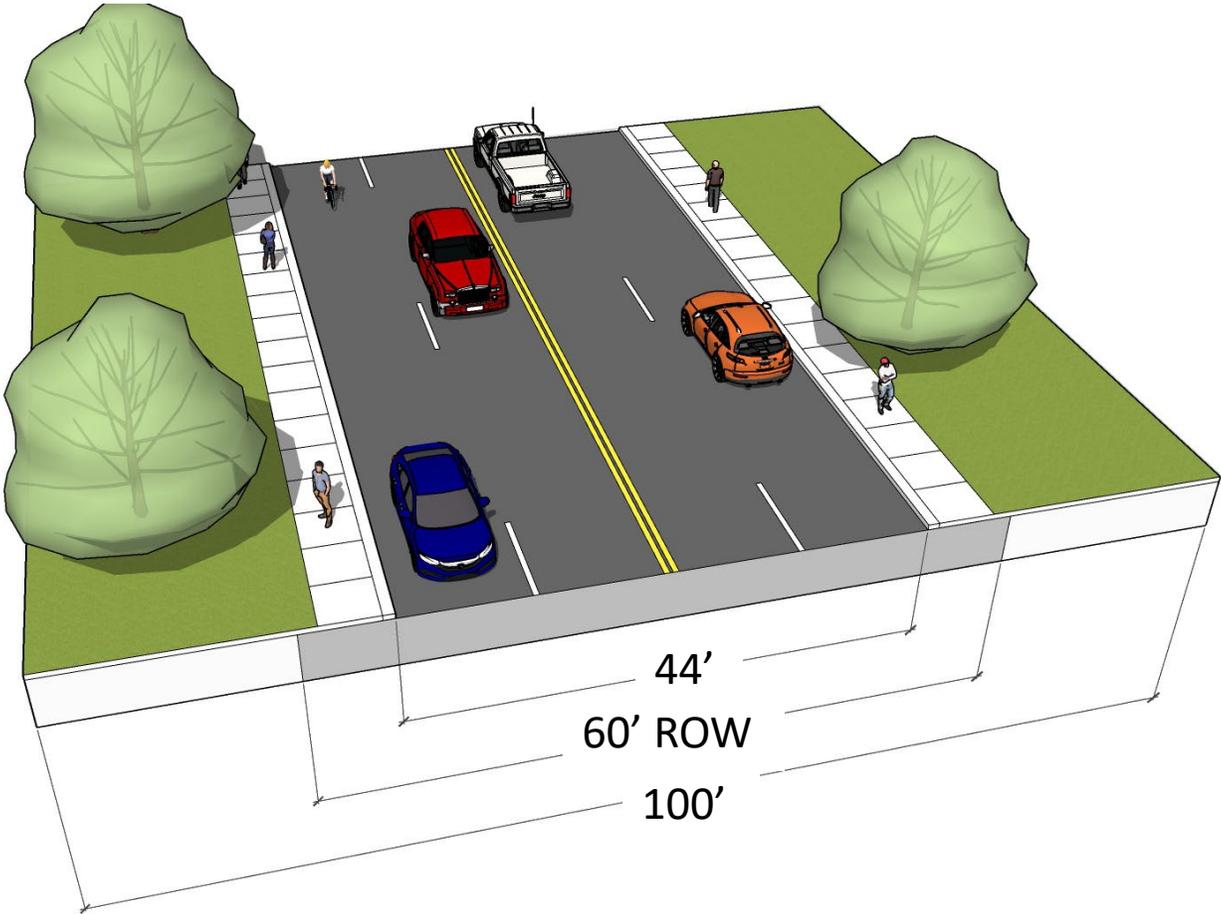


Project Overview

- Bingle Road – Long Point Road to Manire Drive/Spring Branch creek
- Reconfigure existing lane striping from 4 lanes to 3 lanes
- Provide center turn lane



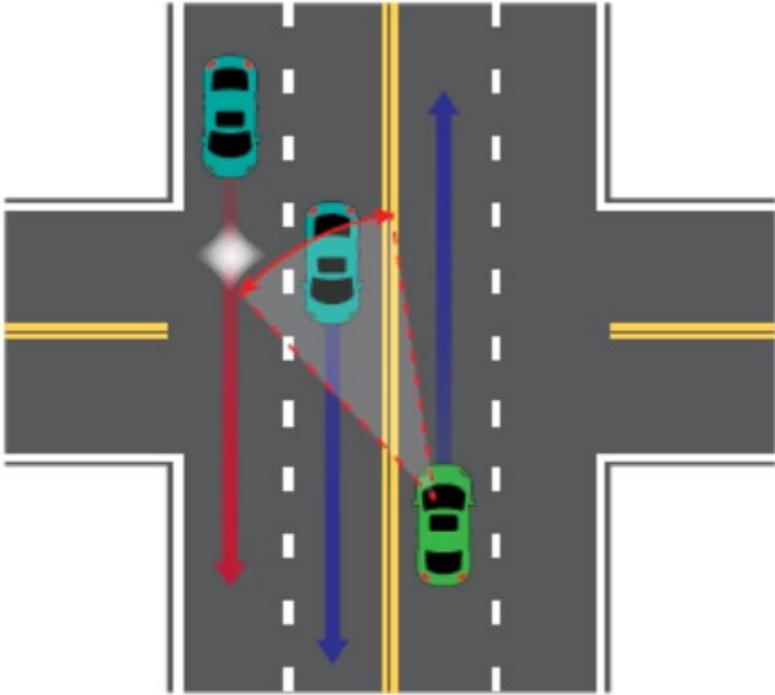
Existing Street Cross Section



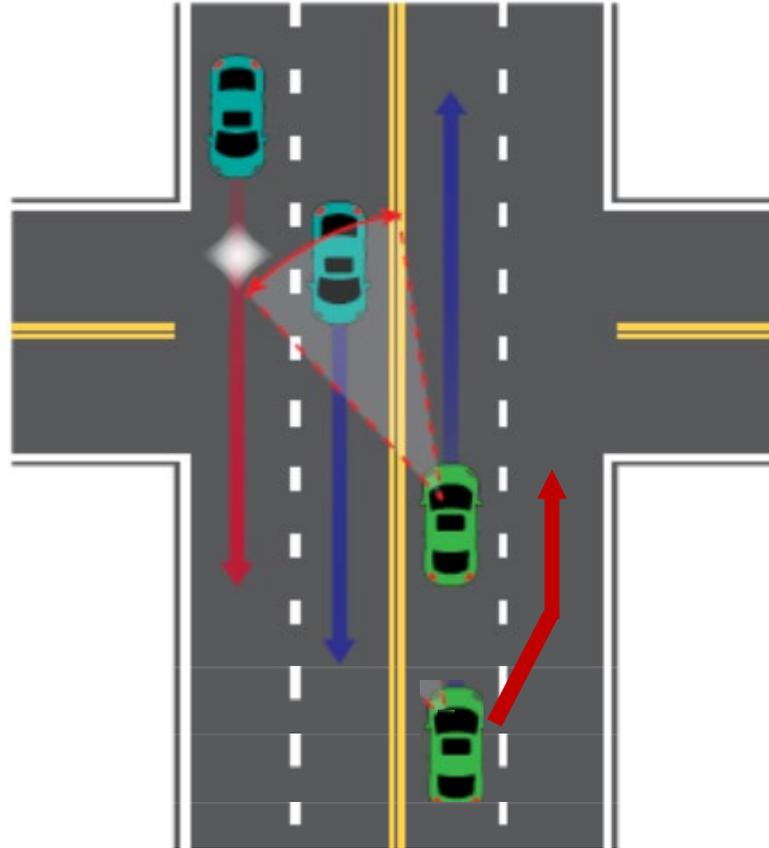
Existing Street Cross Section



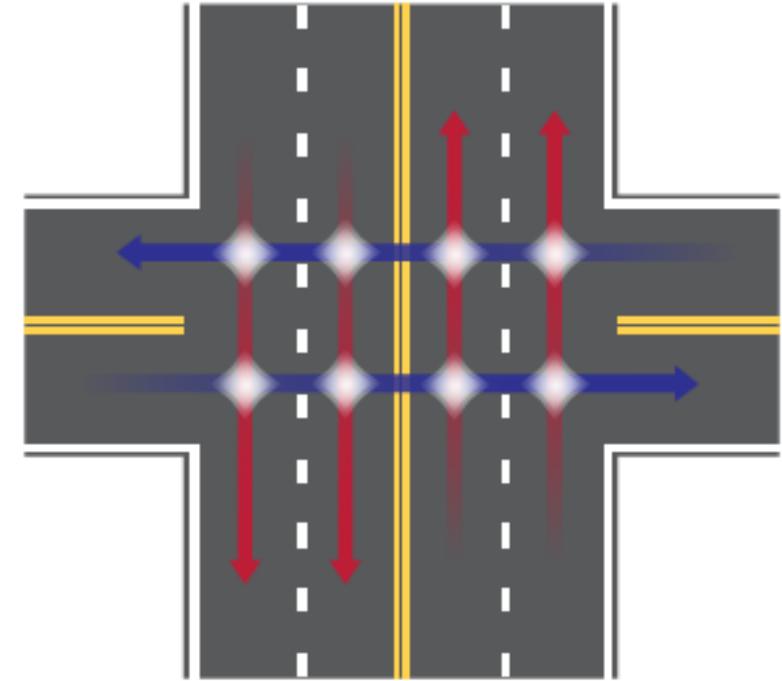
Existing Traffic Conditions



Left (inside) lane shared by higher-speed through traffic and left-turning vehicles.



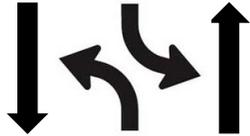
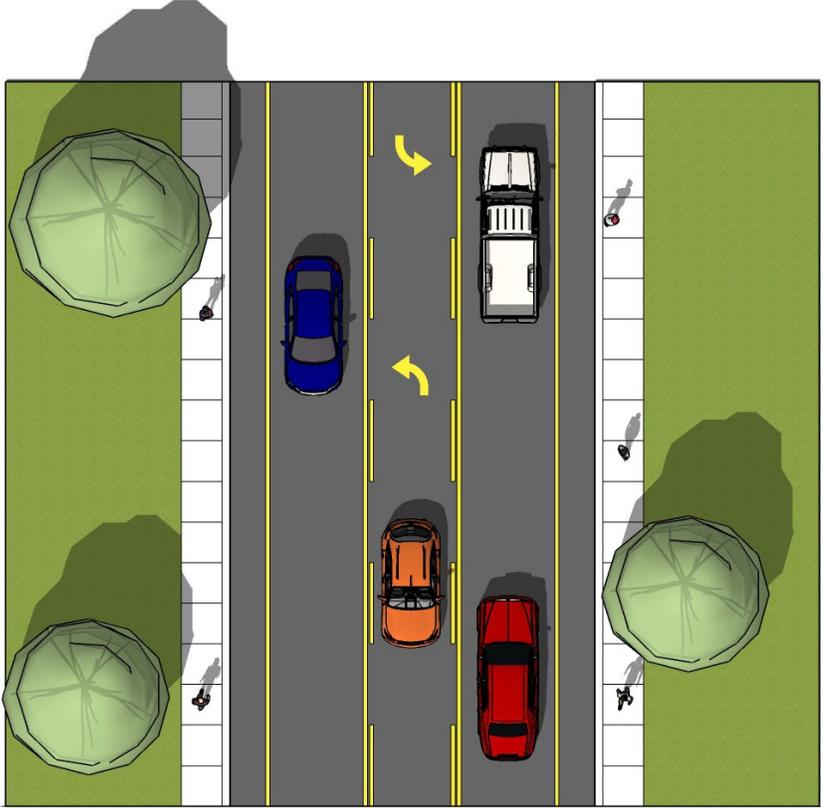
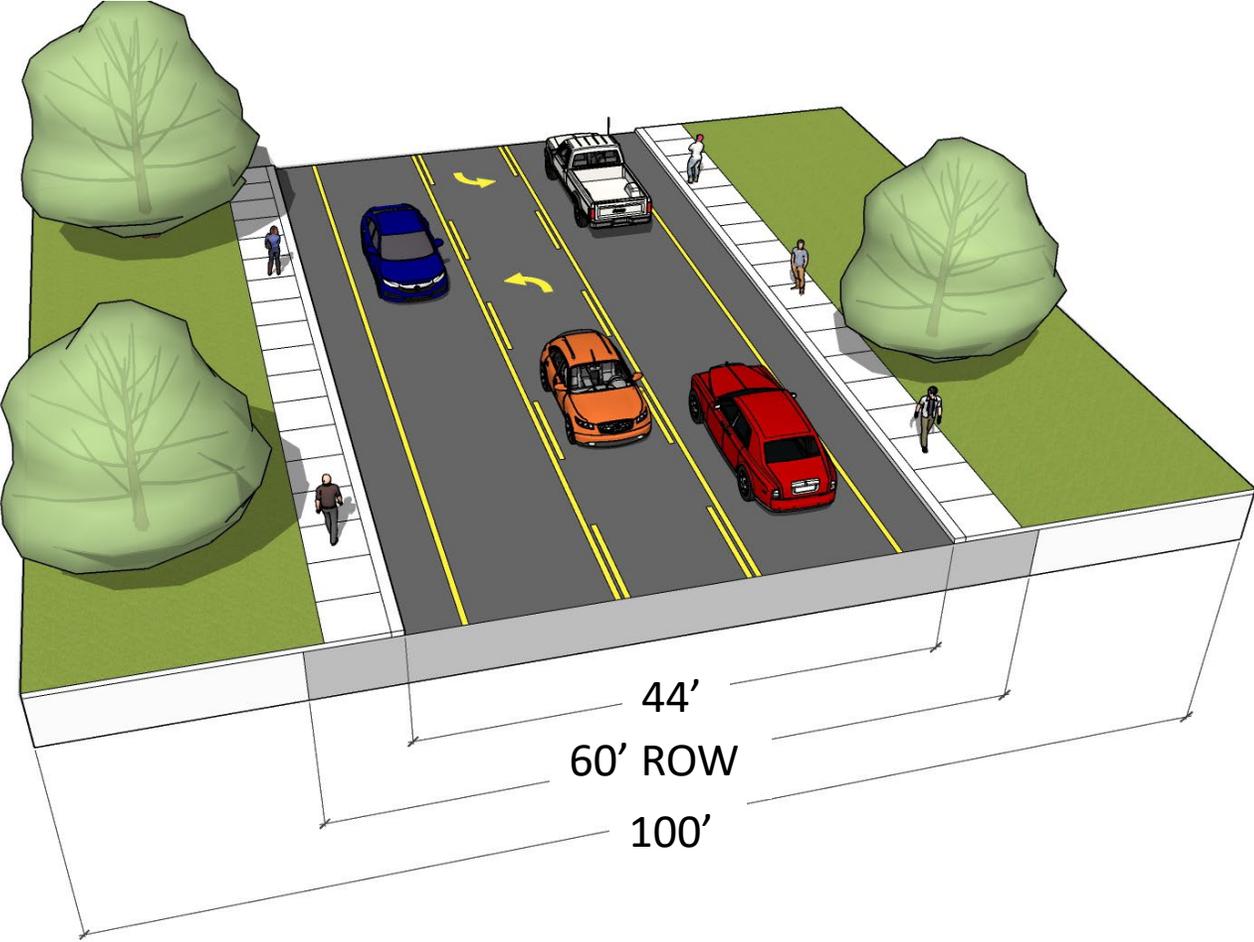
Right (outside) lane used by right-turning vehicles and to avoid left-turning vehicles.



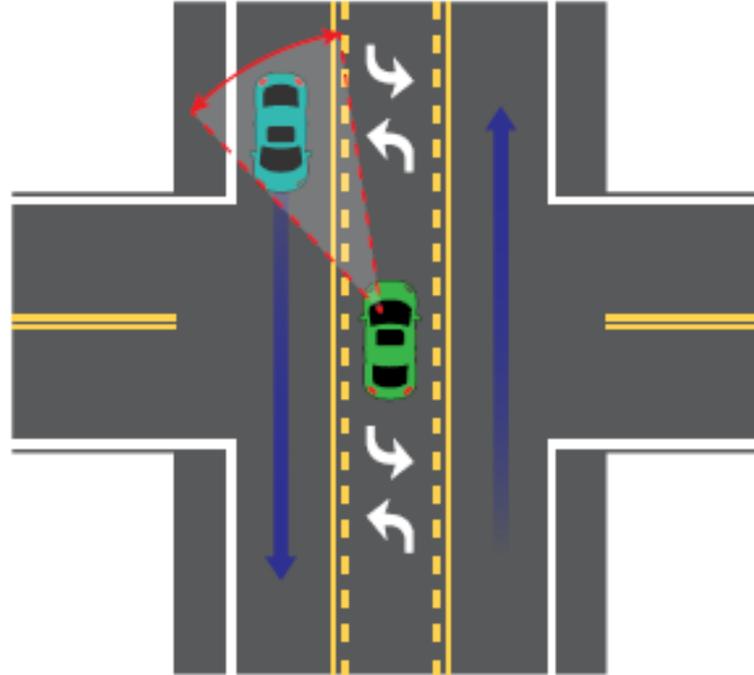
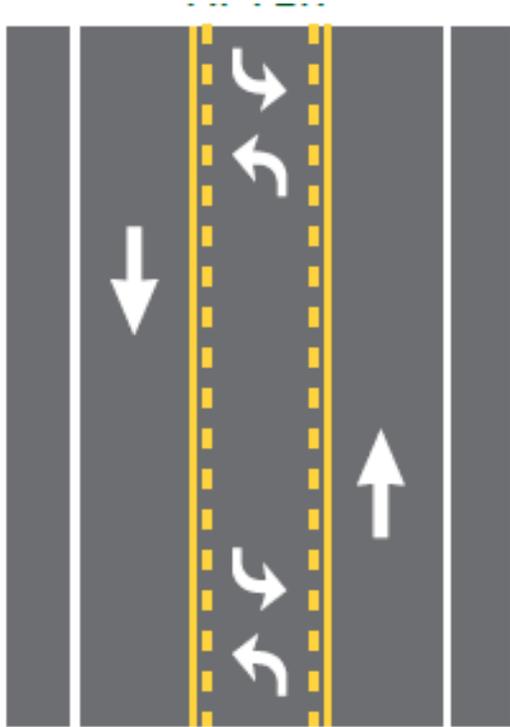
Side street traffic must navigate four lanes or multiple conflict points for making left turns.



Proposed Street Cross Section

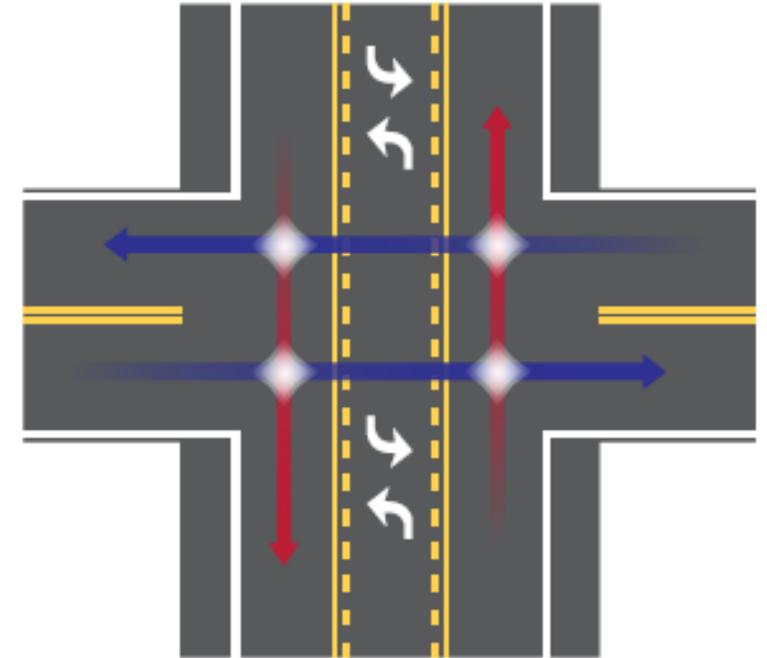


Three-lane Traffic Conditions



Through vehicles separated from left-turning vehicles. Reduces vehicle interactions.

- Navigating one lane of on-coming traffic. No hidden vehicles.
- Fewer vehicles swerving to avoid left-turning vehicles.

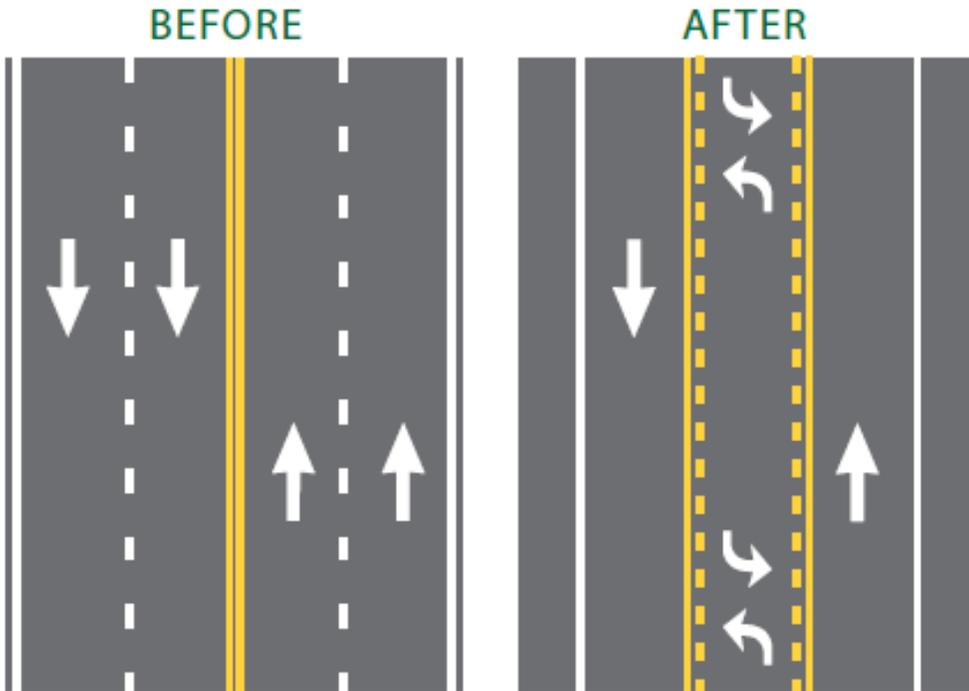


Side streets navigating fewer lanes. More comfortably enter mainline.

- Applies to driveways



Benefits of Three-Lane Roadway



Office of Safety
Proven Safety Countermeasures

Safe Roads for a Safer Future
Investment in roadway safety saves lives

Road Diets
(Roadway Reconfiguration)

SAFETY BENEFIT:

4-Lane → 3-Lane
Road Diet Conversions
19-47%
Reduction in total crashes

Source: *Evaluation of Lane Reduction "Road Diet" Measures on Crashes*, FHWA-HRT-10-053.

- Reduction of crashes – rear-end, left-turn, and right-angle
- Fewer lanes for pedestrians to cross
- More consistent traffic flow
- Reduced speeds



Fewer lanes and slower speeds



6 lanes

Example:
Beechnut
47 mph



4 lanes

Example:
11th Street
38 mph

Bingle Road:
41.5 mph



3 lanes

Example:
Studewood
35 mph



2 lanes

Example:
Local
30 mph



HIT BY A VEHICLE
TRAVELING AT:

20
MPH



9 out of 10 pedestrians survive

HIT BY A VEHICLE
TRAVELING AT:

30
MPH



5 out of 10 pedestrians survive

HIT BY A VEHICLE
TRAVELING AT:

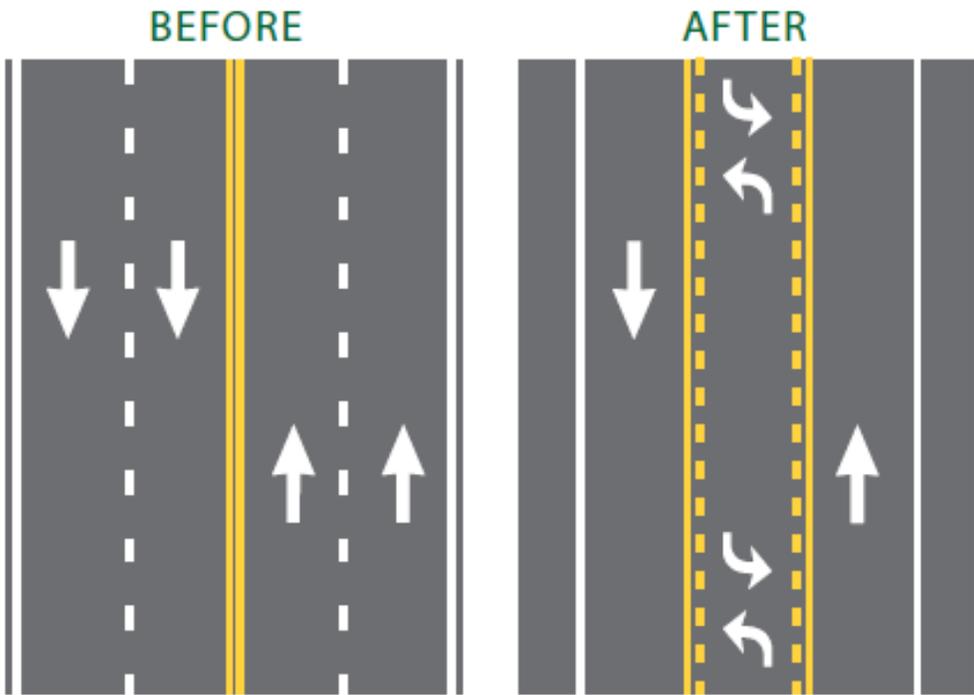
40
MPH



Only 1 out of 10 pedestrians survives

Figure 9: Chance of pedestrian fatality at various impact speeds (Seattle DOT)





Street Traffic (2019)

18,300

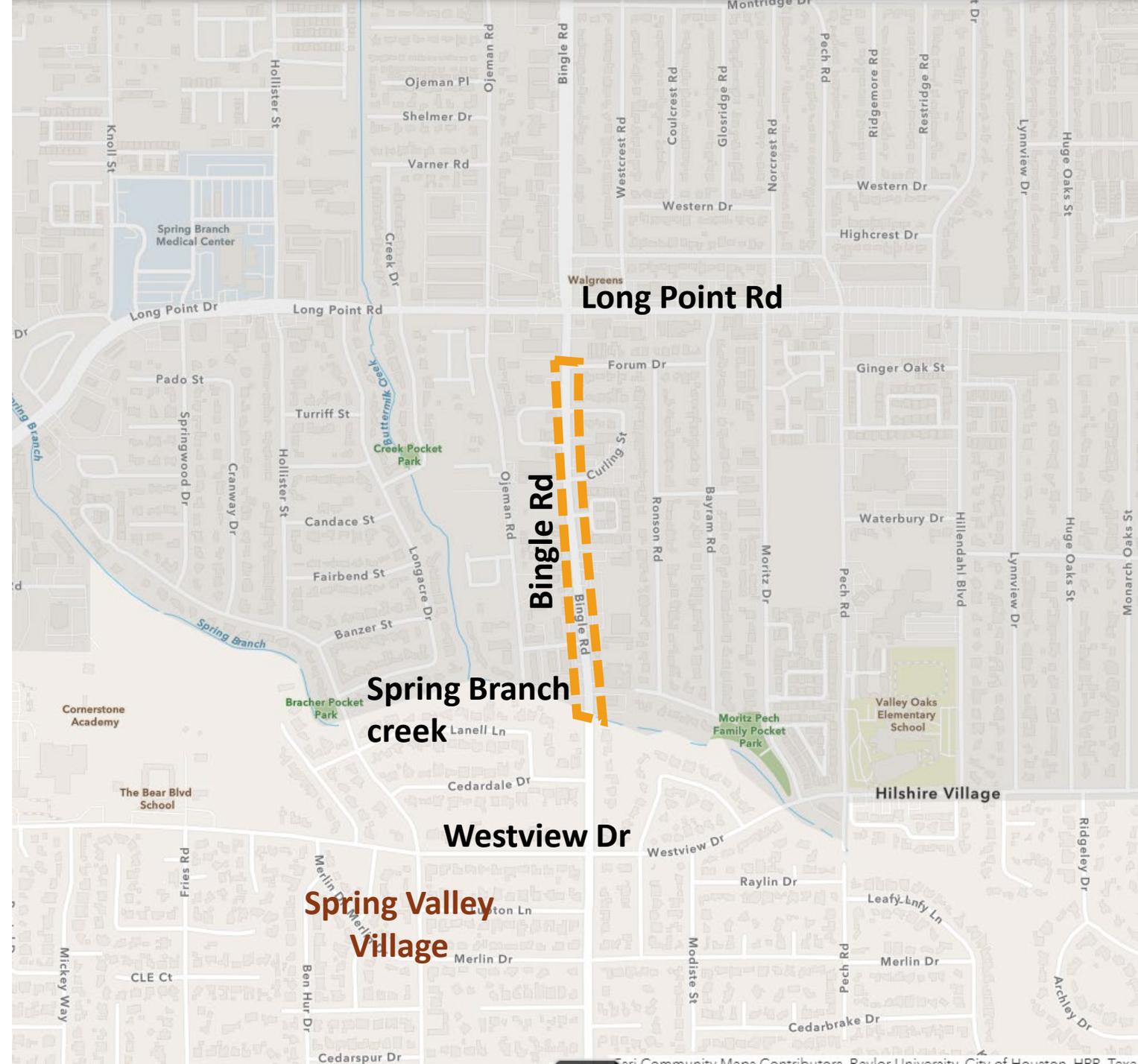
Peak Hour AM: 840 vehicles
 Peak Hour PM: 720 vehicles
 Consideration: <875 vehicles

LOCATION	STREET	TRAFFIC BEFORE	TRAFFIC AFTER
Covington, WA	State Road 516	29,900	32,800
East Lansing, MI	Grand River Boulevard	23,000	23,000
San Francisco, CA	Valencia Street	22,200	20,000
Oakland, CA	High Street	22,000	24,000
Toronto, ON	Danforth	22,000	22,000
Charlotte, NC	East Boulevard	21,400	18,400
Orlando, FL	Edgewater Drive	20,500	21,000
Santa Monica, CA	Main Street	20,000	18,000
Ramsey, MN	Rice Street	18,700	16,400
Bellevue, WA	Montana Street	18,500	18,500
Reno, NV	South Well Avenue	18,000	17,500
Helena, MT	U.S. 12	18,000	18,000
San Leandro, CA	East 14th Street	17,700	16,700
Duluth, MN	21st Avenue East	17,000	17,000
Bellevue, WA	120th Avenue, NE	16,900	16,900
East Lansing, MI	Abbott Road	15,000	21,000
Toronto, ON	St. George Street	15,000	15,000
Lewistown, PA	Electric Avenue	13,000	14,500



Next Steps

- Public feedback to gauge support and capture concerns
- Continued study of traffic impacts, access
 - Driveways
 - Side streets
- Coordination with Spring Valley Village



Contact Info and Resources

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