

# **Fisher Road Scoping Study**

**Alternatives Presentation**

**Berlin Selectboard**

**February 21 2023**

# What is a scoping study?

## STRATEGIC PLAN

Big visions for the entire town. Public engagement leads the process. The visions are broad enough to cover a wide range of ideas. Sets the direction for future projects.

Public Engagement: High



## SCOPING STUDY

Investigates a specific facility to develop further. Examines alternative designs with public input. Provides costs that allow a community to budget for future improvements. Supports state and federal grant awards.

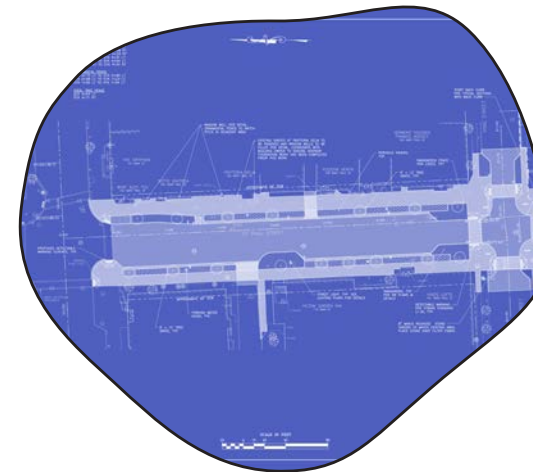
Public Engagement: Moderate



## CONSTRUCTION DOCUMENTS & PERMITS

Detailed design documents which allow a contractor to go build a new street, building, park, or bridge. This phase includes development and filing of detailed permits for environmental, cultural, and other project impacts.

Public Engagement: Low



## BUILT IMPROVEMENTS

After so much work, its time to put a shovel to the ground and build a new street, master planned by the community.

Public Engagement: Minimal



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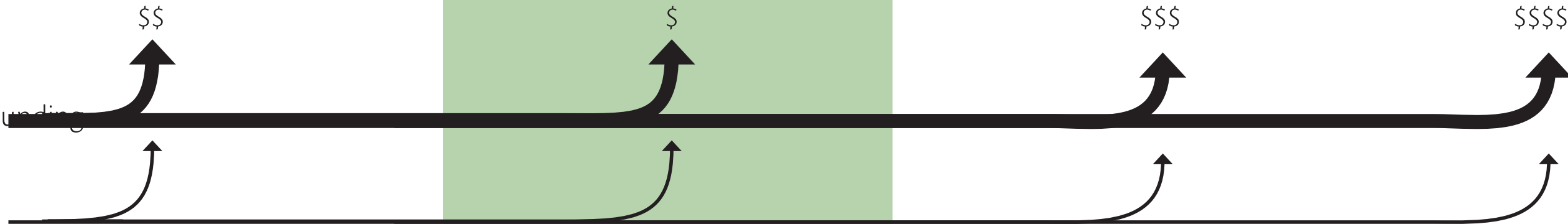
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Federal & State Funding

Local Funding



# Where this Study Fits



**New Town Center Application**

**Fisher Road Scoping Study**

**Future Redevelopment & Road Improvements**



# New Town Center Vision



This conceptual master plan for the *...*

# The Front Door to Berlin's Town Center



# Today's Concerns

Provides Crucial Access to CVMC, Mall, and others.

No safe way to cross Route 62 on foot.

Could this intersection be more comfortable to walk through? Could it move vehicles more efficiently?

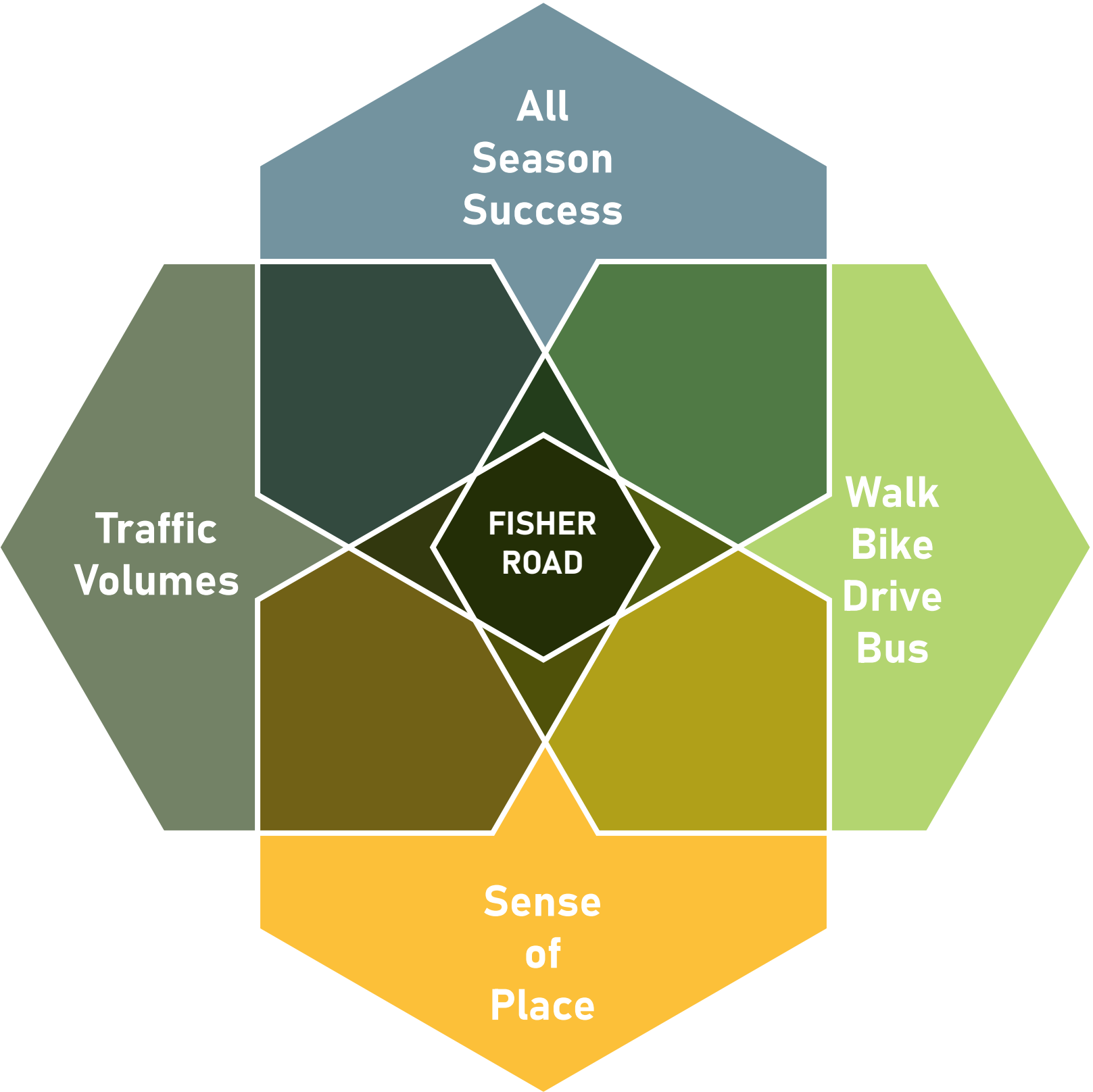
The pavement is wider than it needs to be.

Parking lot frontage does not encourage pedestrian access

This is the only safe place to walk on the street.



# Design Goals



# Alternative Considerations

**Bicycle & Pedestrian Improvements**



**Greenspace Expansion**



**Intersection Design**

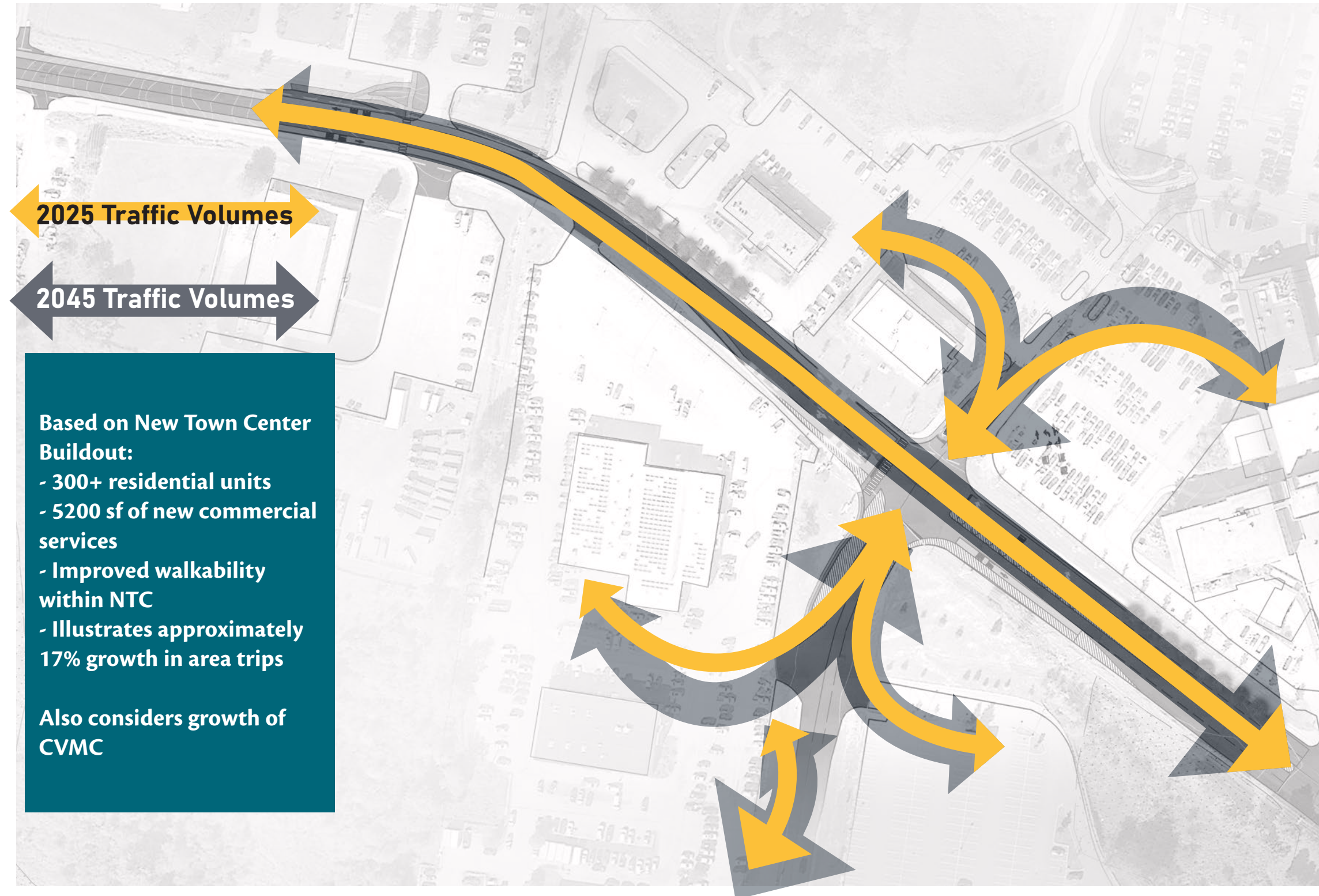


**Traffic Modeling**





# Alternative Considerations: Traffic Modeling



# Alternative Considerations: Traffic Modeling

## Methodology

- To develop the traffic volumes used for study area intersection evaluations, this project utilized turning movement counts conducted by both VTrans and D&K (pre COVID).
- This modelling process followed VTrans guidelines and standard practice for traffic engineering studies by evaluating traffic volumes that represent the “design hour volume” (DHV).
- The DHVs are developed by applying adjustment factors to the turning movement counts, calculated using nearby traffic data from the VTrans Transportation Data Management System (VTrans MS2 website) .
- This data was adjusted to accommodate for changes in traffic due to the COVID-19 pandemic. Factors for projecting turning movement count data to current year design hour volumes utilized 2019 AADT data (pre-COVID) of nearby traffic volumes.

## Considerations

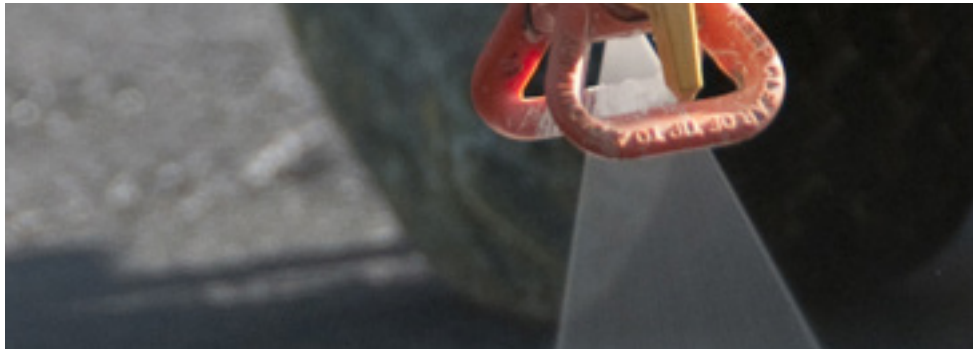
- **Level of Service** - Level of service (LOS) is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, maneuverability, delay, and safety. LOS ranges from best (LOS A) to worst (LOS F). In this report, the current LOS is compared to the LOS projected for each proposed alternative.
- **Intersection Delays** - Intersection delay is the additional travel time experienced by a vehicle after it enters the intersection and before it reaches free-flow speed, typically characterized by needing to wait to turn, or to allow other traffic to pass.
- **Maximum Queue Lengths** - The number of cars queued at an intersection. A vehicle is considered as queued when it approaches within one car length of a stopped vehicle and is itself about to stop.



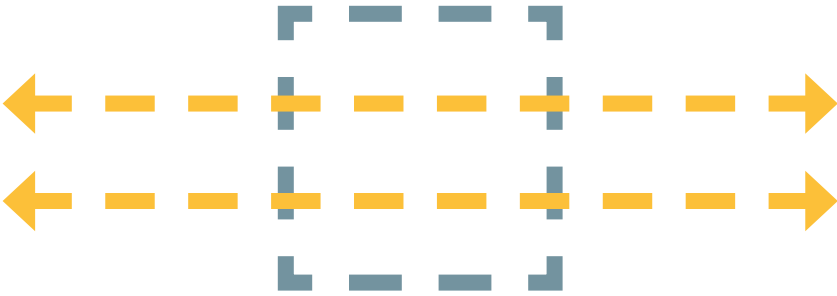
# 4 Design Concepts



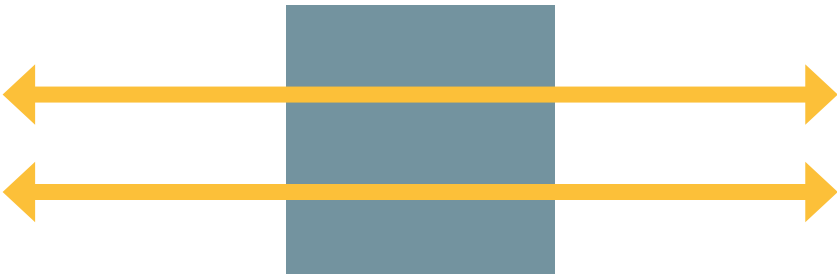
No Build



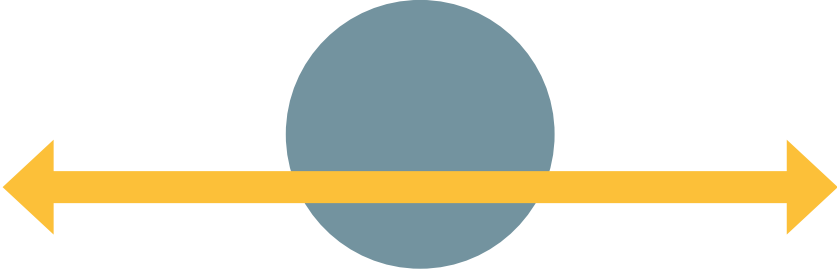
Paint Only Road Diet



Lane Reduction & Sidewalks



Roundabout & Pathway



Mix and Match!

# No Build



# Paint Only Road Diet

Potential Cost: \$525,000 to \$765,000

This design option is proposed as a way for the community to develop improved multi-modal access to Fisher Road, and test out the impact of reducing lanes at the Berlin Mall Road / CVMC intersection without expensive road reconstruction.

Painted bike lanes would both narrow the visual roadway and create a designated space on the roadway for biking, and in lieu of any more appropriate facilities, a place to walk as well. More significant paint only treatments are proposed around the road's central intersection between CVMC campus and the Berlin Mall - here, the new paint scheme would right-size the roadway width to include bike lanes, and reduce the travel lanes from three lanes to two. The changes proposed for this intersection are illustrated in greater detail in the intersection change segment of this chapter. In addition to these changes, a series of concrete planters would extend the median that currently exists at the Route 62 intersection and Fisher Road towards the Hospital Loop Road / Berlin Mall Road intersection. This median extension would complement lane reduction and create a more narrow roadway profile in an effort to reduce overall travel speeds and create a more safe multi-modal road corridor.

This quick build design option would not include any new plantings (other than in the planters), or create any new sidewalk or pedestrian crossings.



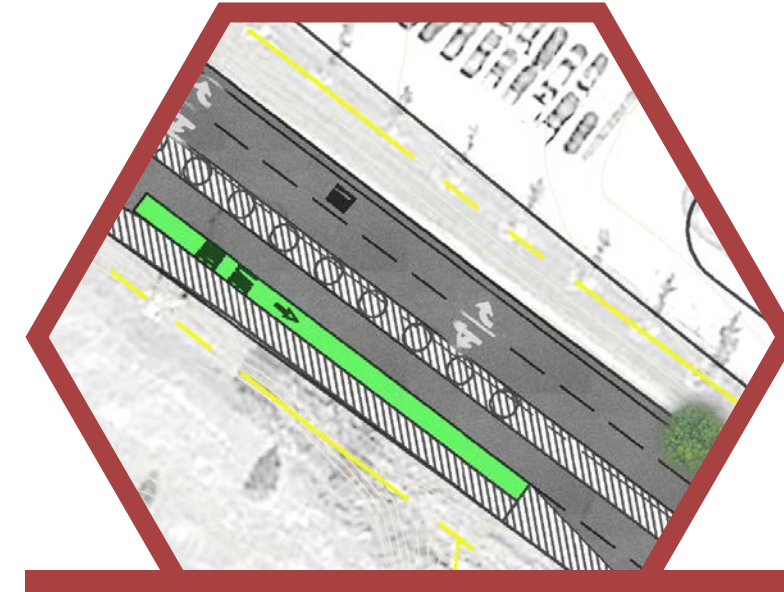
Bike lanes support safe access



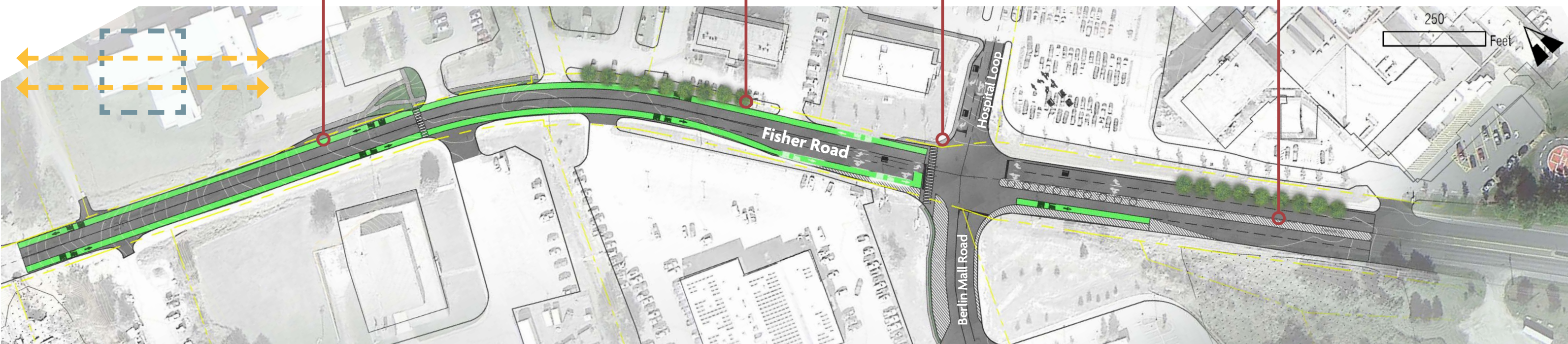
No new plantings - maintain existing



No new sidewalk - maintain existing



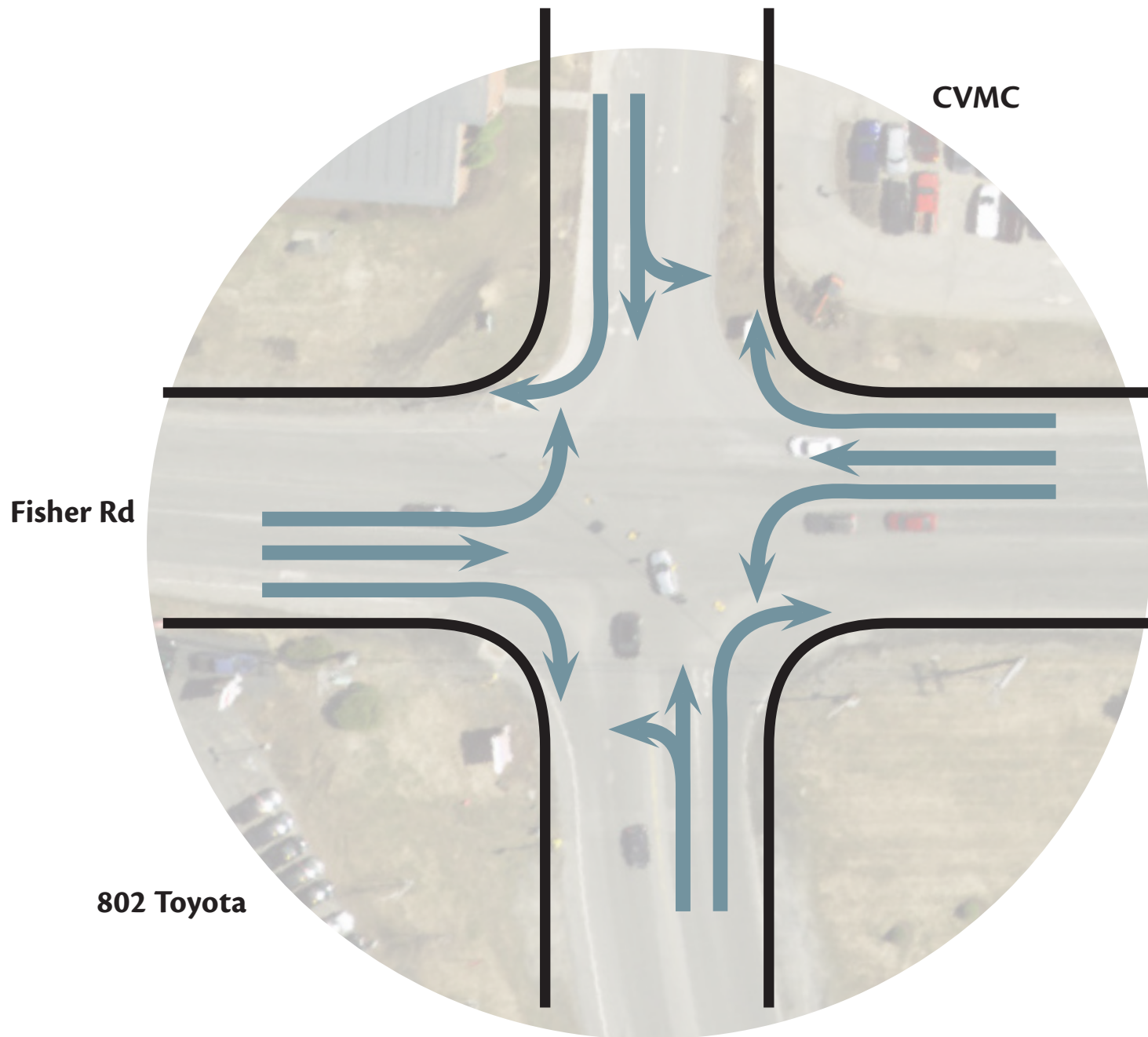
Painted Median with concrete planters reduce travel lane widths



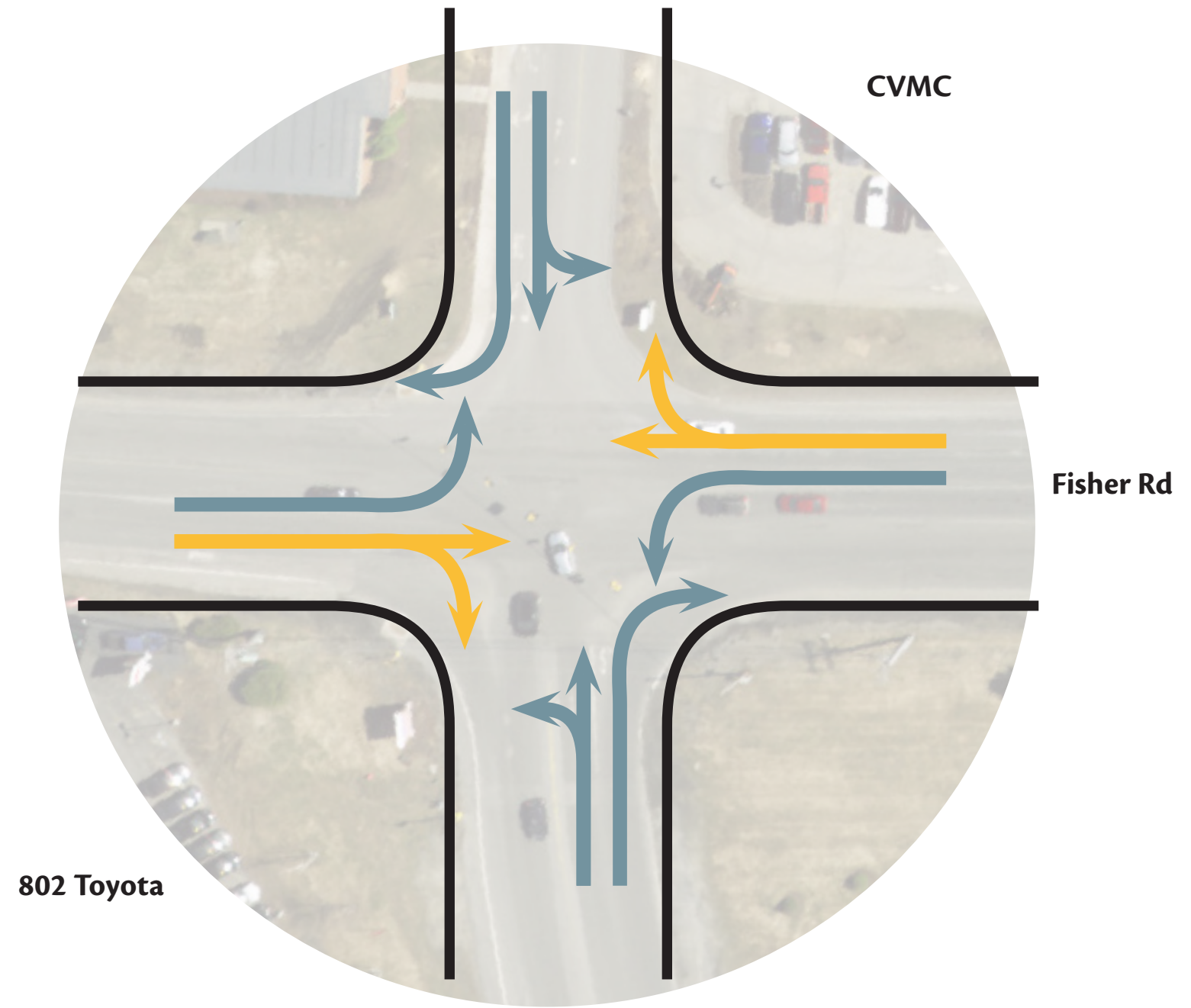
# Paint Only Road Diet

## Lane Reductions

### Current



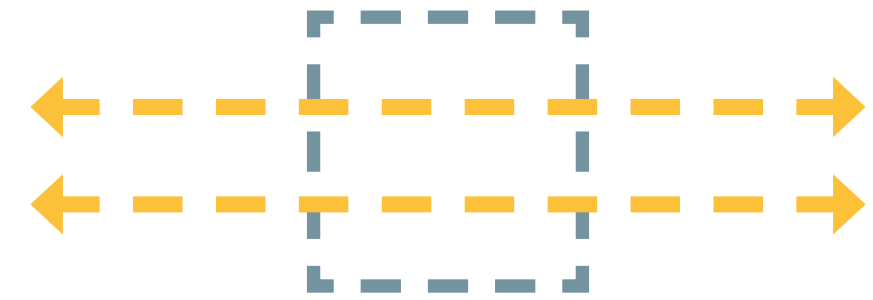
### Proposed



**Note: Both Paint Only Road Diet and Lane Reduction Alternative utilize this approach.**

# Paint Only Road Diet

## Traffic Impact Analysis



		Existing Conditions	Paint Only Road Diet
<i>Intersection LOS</i>			
<b>2025</b>	LOS am	C	C
	LOS pm	D	C
<b>2045</b>	LOS am	C	C
	LOS pm	E	D
<i>Intersection Delays</i>			
<b>2025</b>	AM Delay	baseline	0.9
	PM Delay	baseline	-15.7
<b>2045</b>	AM Delay	baseline	1.2
	PM Delay	baseline	-16.8
<i>Maximum Queue Lengths (# of Cars)</i>			
		Existing Conditions	Paint Only Road Diet
<b>2025</b>	Paine TP	4	4 <i>PM, Fisher Road WB</i>
	CVMC/Mall	7	6 <i>PM, Fisher Road WB</i>
	Route 62	14	11 <i>PM, Fisher Rd SB</i>
<b>2045</b>	Paine TP	7	6 <i>PM, Fisher Rd WB</i>
	CVMC/Mall	10	8 <i>PM, Fisher Rd WB</i>
	Route 62	13	14 <i>PM, Fisher Rd SB</i>

# Lane Reduction & Sidewalks

Potential Cost: \$1,300,000 to \$1,512,686

This design option builds a complete street along the length of Fisher Road. Similar in roadway design to the paint only option, this approach builds a complete sidewalk network as well as a shared use path corridor connecting Fisher Road to Paine Turnpike and the Berlin New Town Center developments.

Existing crosswalks are maintained, and an additional three pedestrian crossings are added to the four way stop at Berlin Mall Road / Hospital Loop Road. A shared use path is developed in conjunction with the New Town Center Development that allows eastbound travelers on foot or bicycle to connect with the development's destinations.

Roadway changes in this alternative, and modeled traffic impacts are identical to the paint-only design option, but would be more expensive to construct, less expensive to maintain, and would actually reconfigure the roadway as a complete street, as opposed to painting the roadway like one.



Buffered bike lanes on western side of road. Sidewalk throughout corridor to connect with shared use path.



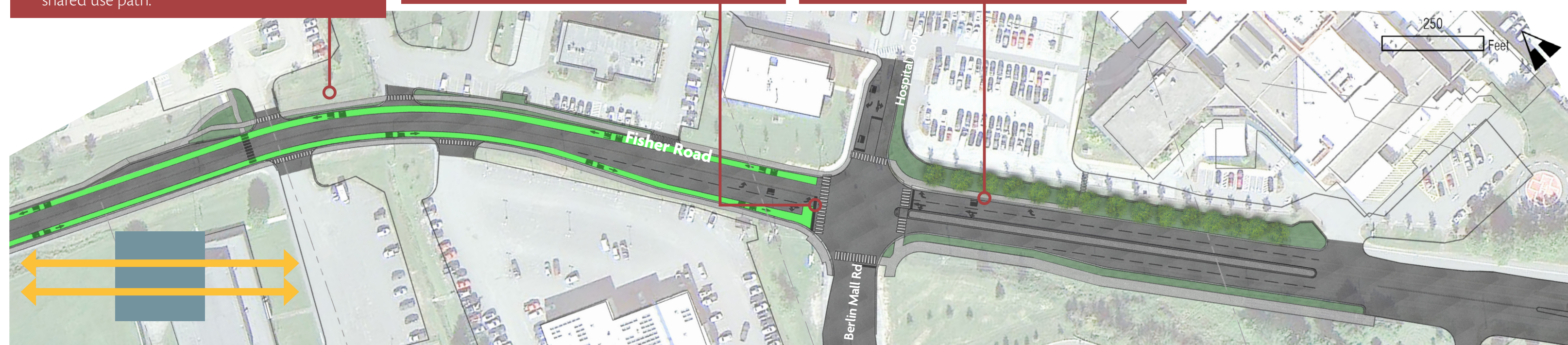
Four way pedestrian crossing improves pedestrian access throughout area.



Planted median continues street tree rhythm towards Route 62.



Shared Use path connects to Town Center.





# Lane Reduction and Sidewalks

## Traffic Analysis



		Existing Conditions	Lane Reduction & Sidewalks
<i>Intersection LOS</i>			
<b>2025</b>	LOS am	C	C
	LOS pm	D	C
<b>2045</b>	LOS am	C	C
	LOS pm	E	D
<i>Intersection Delays</i>			
<b>2025</b>	AM Delay	baseline	0.9
	PM Delay	baseline	-15.7
<b>2045</b>	AM Delay	baseline	1.2
	PM Delay	baseline	-16.8

<i>Maximum Queue Lengths (# of Cars)</i>			
		Existing Conditions	Lane Reduction and Sidewalks
	Paine TP	4	4 PM, Fisher Road WB
	CVMC/Mall	7	6 PM, Fisher Road WB
<b>5</b>	Route 62	14	11 PM, Fisher Rd SB
	Paine TP	7	6 PM, Fisher Rd WB
	CVMC/Mall	10	8 PM, Fisher Rd WB
<b>5</b>	Route 62	13	14 PM, Fisher Rd SB

# Roundabout and Pathway

Potential Cost: 2,500,000 - \$3,500,000

This design option replaces the four way stop in the center of the Fisher Road Corridor with a single lane roundabout. In doing so, it reduces traffic congestion at this busy intersection while creating opportunity for placemaking artwork and improving multi-modal safety at this link between CVMC and future New Town Center development.

Instead of sidewalks and bike lanes, this design option concentrates multi-modal access on a broad, 12 foot wide shared use pathway along the southwest side of the roadway. This facility would accommodate two way bicycling and walking traffic. New sidewalk would be constructed along the northern side of the roadway adjacent to the CVMC campus to create a more walkable health center.

The addition of street trees through this corridor would create a traffic calming gateway effect, mimicking the existing pattern of trees planted just outside the public right of way by CVMC.



New street trees create traffic calming effect and street beautification



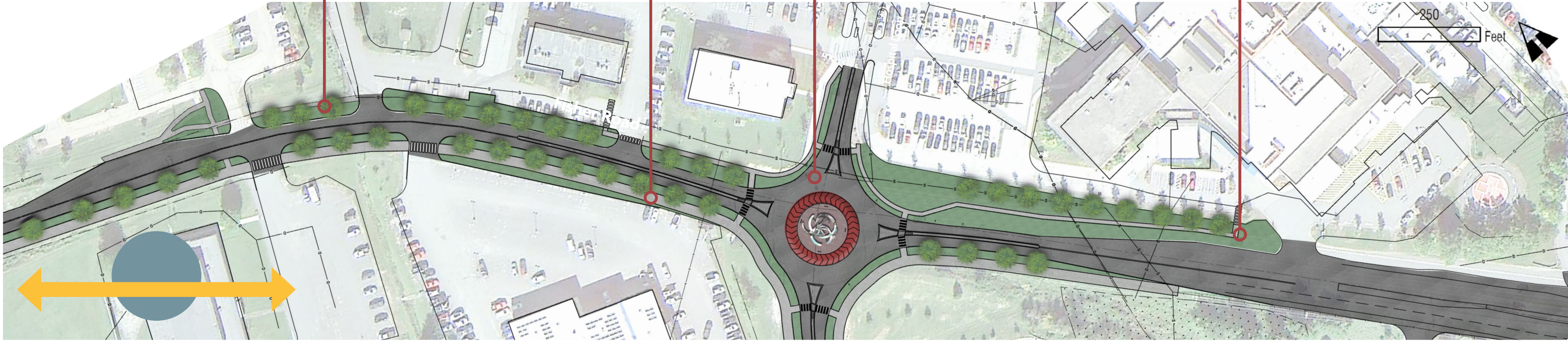
Continuous 12' wide shared use pathway links town center to Fisher Road



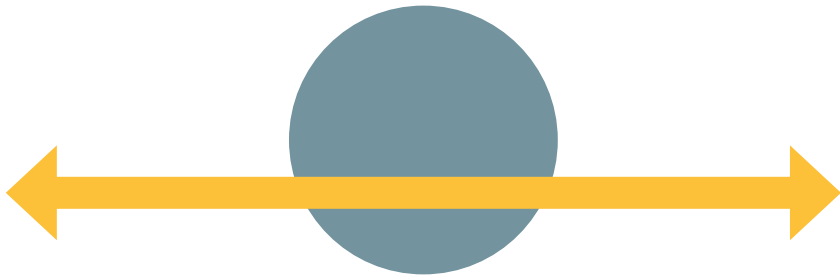
Roundabout reduces pedestrian crossing distances and reduces traffic congestion at intersection



Sidewalk extensions create a more accessible & healthy CVMC campus



# Roundabout and Pathway



## Traffic Analysis

Existing Conditions

Roundabout and Pathway

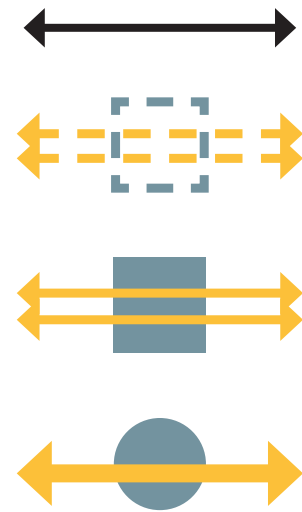
Intersection LOS			
2025	LOS am	C	A
	LOS pm	D	A
2045	LOS am	C	A
	LOS pm	E	A

Intersection Delays			
2025	AM Delay	baseline	-21.3
	PM Delay	baseline	-44.8
2045	AM Delay	baseline	-22.1
	PM Delay	baseline	-50

Maximum Queue Lengths (# of Cars)			
		Existing Conditions	Roundabout
2025	Paine TP	4	4 PM, Fisher Road WB
	CVMC/Mall	7	3 PM, Fisher Road WB
	Route 62	14	13 PM, Fisher Rd SB
2045	Paine TP	7	6 PM, Fisher Rd WB
	CVMC/Mall	10	4 PM, Fisher Rd WB
	Route 62	13	13 PM, Fisher Rd SB

# Alternatives Comparison



Fisher Road Design Option Matrix										
DESIGN OPTION	Bike/Ped Safety	Traffic Calming	SAFETY SCORE	Property Impact	Conceptual Cost	Utility Impacts	IMPLEMENTATION SCORE	TRAFFIC SCORE	PUBLIC SUPPORT SCORE	FINAL SCORE
0: No Build	0	0	0	3	3	3	3.0	1	1	5.0
1: Paint Only Road Diet	1	1	1.0	3	2	3	2.7	2	1	6.7
2: Lane Reduction + Sidewalk	2	2	2.0	2	1.5	2	1.8	2	1	6.8
3: Roundabout and Pathway	3	2.5	2.75	1	0.5	2	1.15	3	3	9.9
SCORING SYSTEM										
0	No safe bike/ped accommodation	No traffic calming elements		N/A	N/A	N/A		N/A	N/A	
1		Minor traffic calming elements		Easements likely	Over \$1 Million	Significant impacts		Deterioration of 2045 traffic flow	Less than 20% support	
2	Safe pedestrian accommodation, improved bicycle accommodation	Physical roadway changes to calm traffic		Easements unlikely	Under \$1 Million	Minor impacts		Some improvements to 2045 traffic flow	Between 20% and 50% support	
3	Fully safe and separated bicycle and pedestrian accommodation	Significant physical roadway changes to calm traffic		No impacts	No cost	No impacts		Greatest improvements to 2045 traffic flow	More than 50% support	

# Questions?

