

Engineering Department FY 2021-2022 Budget Town of Brunswick

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Engineering Department

Roles and Responsibilities



- Develops and oversees the development of plans and specifications for a wide variety of municipal projects and activities.
 - Reviews and advises on plans submitted to the Town (subdivision, site development, infrastructure, and utility construction).
 - Develops and solicits bids and requests for proposals, including bid documents, drawings, specifications, and cost estimates for a wide variety infrastructure projects.
 - Monitors, coordinates, and reports on the work of consultants and contractors.
 - Coordinates the work of contracted or in-house field inspectors, or performs field inspections, for a variety of projects. Reviews and recommends pay requests. Catalogues and maintains record drawings.
 - Responsible for oversight, maintenance, and improvement of the GIS program
 - Works collaboratively with the Public Works Director on the public works project
 - Develops or assists in the development of policies and programs to address infrastructure and long-term capital needs, including facilities maintenance and replacement.
 - Responsible for, or assists in, preparing and implementing federal, state, and local grants and loans.
 - Develops and updates design criteria, construction specifications, and standard drawings for the design and construction of public infrastructure projects.
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Engineering Department

Roles and Responsibilities



- Oversees the maintenance of public records regarding street rights-of-ways, and other public infrastructure.
 - Develops and administers the operating budget and capital plans for the department, landfill, and facilities.
 - Responds to inquiries and concerns from citizens, developers, council members, regulatory agencies, departments, and others on matters relating to public works projects.
 - Ensures implementation, accurate record keeping, and compliance with Federal, State and local legislation related to the engineering activities of the Town.
 - Represents the Town before various boards and commissions and participates in various organizations as a representative of the Town and/or department as appropriate.
 - Maintains operations manual for the solid waste landfill and reviews activities for compliance with the manual, laws, regulations, and licenses.
 - Monitors and reports to the MaineDOT and MaineDEP as required on activities, programs, and grants.
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FY 2021-2022 Budget Request

Engineering

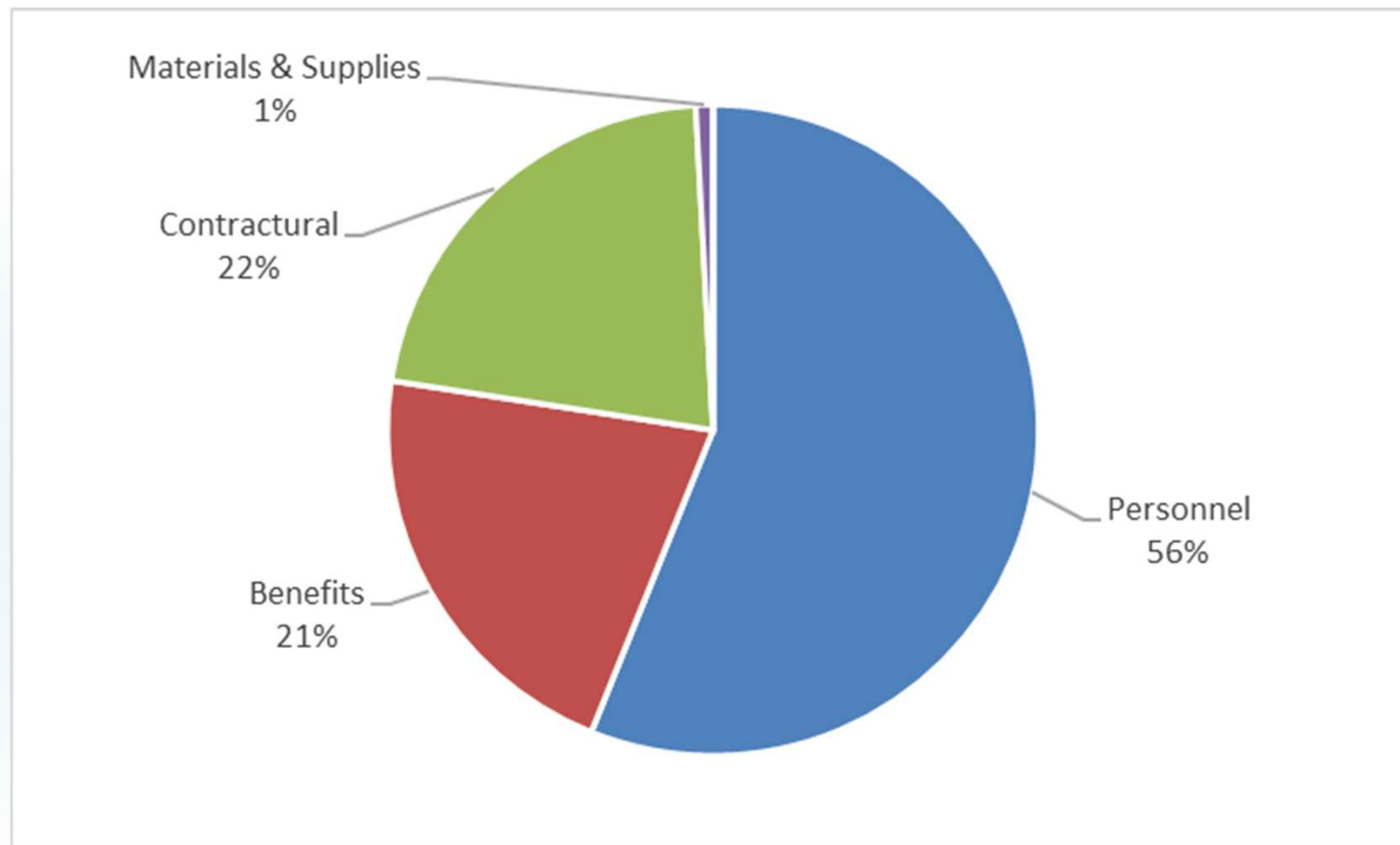


Totals	Actual 2019-2020	Budget 2020-2021	Request 2021-2022	Increase/ (Decrease)	% Change
Personnel	\$ 158,625	\$ 164,484	\$ 171,293	\$ 6,809	4.1%
Benefits	\$ 61,218	\$ 63,955	\$ 65,144	\$ 1,189	1.9%
Contractural	\$ 6,888	\$ 43,590	\$ 66,300	\$ 22,710	52.1%
Materials & Supplies	\$ 1,151	\$ 7,340	\$ 2,600	\$ (4,740)	-64.6%
Capital	\$ -	\$ -	\$ -	\$ -	0.0%
Totals:	\$ 227,882	\$ 279,369	\$ 305,337	\$ 25,968	-6.5%

Consolidation of Software Licenses **\$ 22,710**

**Citizen Engagement and Work Order Software Annual Licensing Fee*

FY 2021-2022 Budget Request Engineering



Pavement Management Program

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What is Pavement Management?

Why didn't my road get paved this year?

Do you know how bad my road is?

My Road is the worst in Town

Why hasn't the Town paved Neptune Drive?

Why are you paving Pleasant Street instead of Spring Street?

My Road hasn't been paved since I moved here in 2010!

What is Pavement Management?

Why hasn't the Town paved Neptune Drive?

Why Can't We Pave More!



Existing Condition



Travelway = 24'
Shoulders = 0'
No Striping

Light Capital Paving

1.00" Hot Mix Asphalt

29 Miles of Road



Travelway = 24'

Shoulders = 0'

No Striping

Cost/Mile

=\$145,000

Annual Cost/Mile

=\$0

Shim and Overlay

1.25" Hot Mix Asphalt
0.50" Hot Mix Asphalt – Shim

39 Miles of Road



Travelway = 24'
Shoulders = 0'
No Striping

Cost/Mile
=\$270,000

Annual Cost/Mile
=\$0

Mill and Fill

1.25" Hot Mix Asphalt - Surface
0.50" Hot Mix Asphalt - Shim
Mill Roadway



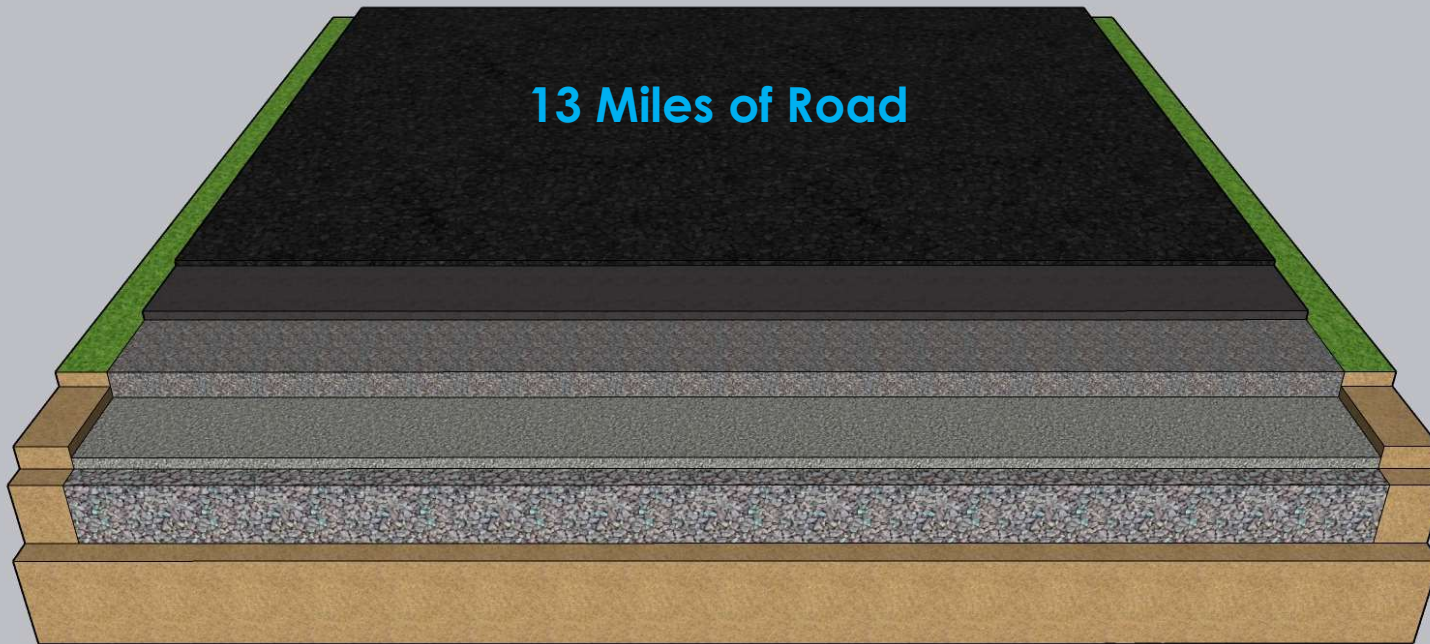
Travelway = 24'
Shoulders = 0'
No Striping

Cost/Mile
=\$395,000

Annual Cost/Mile
=\$0

Reclaim and Pave

1.25" Hot Mix Asphalt - Surface
2.50" Hot Mix Asphalt - Binder
Reclaim Roadway



Travelway = 24'
Shoulders = 0'
No Striping

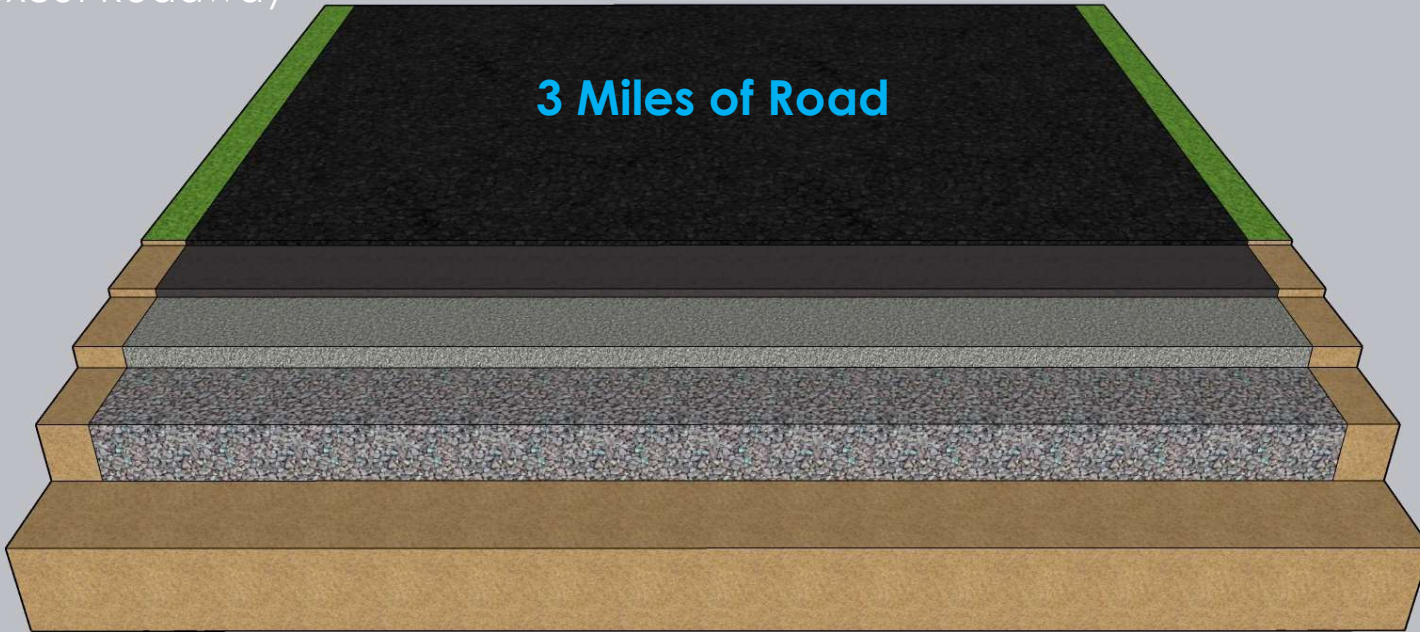
Cost/Mile
=\$640,000

Annual Cost/Mile
=\$0

Reconstruction

1.50" Hot Mix Asphalt - Surface
2.50" Hot Mix Asphalt - Binder
21.00" Gravel
Boxcut Roadway

3 Miles of Road



Travelway = 24'

Shoulders = 0'

No Striping

Cost/Mile
=\$840,000

Annual Cost/Mile
=\$0

Annual Paving Budget

Miles of Town Maintained Roads	144 Miles
Paving Required annually to maintain PCI	8-10 Miles
Current Budget	\$1,200,000
Current Budget per Mile	\$120k to \$150k

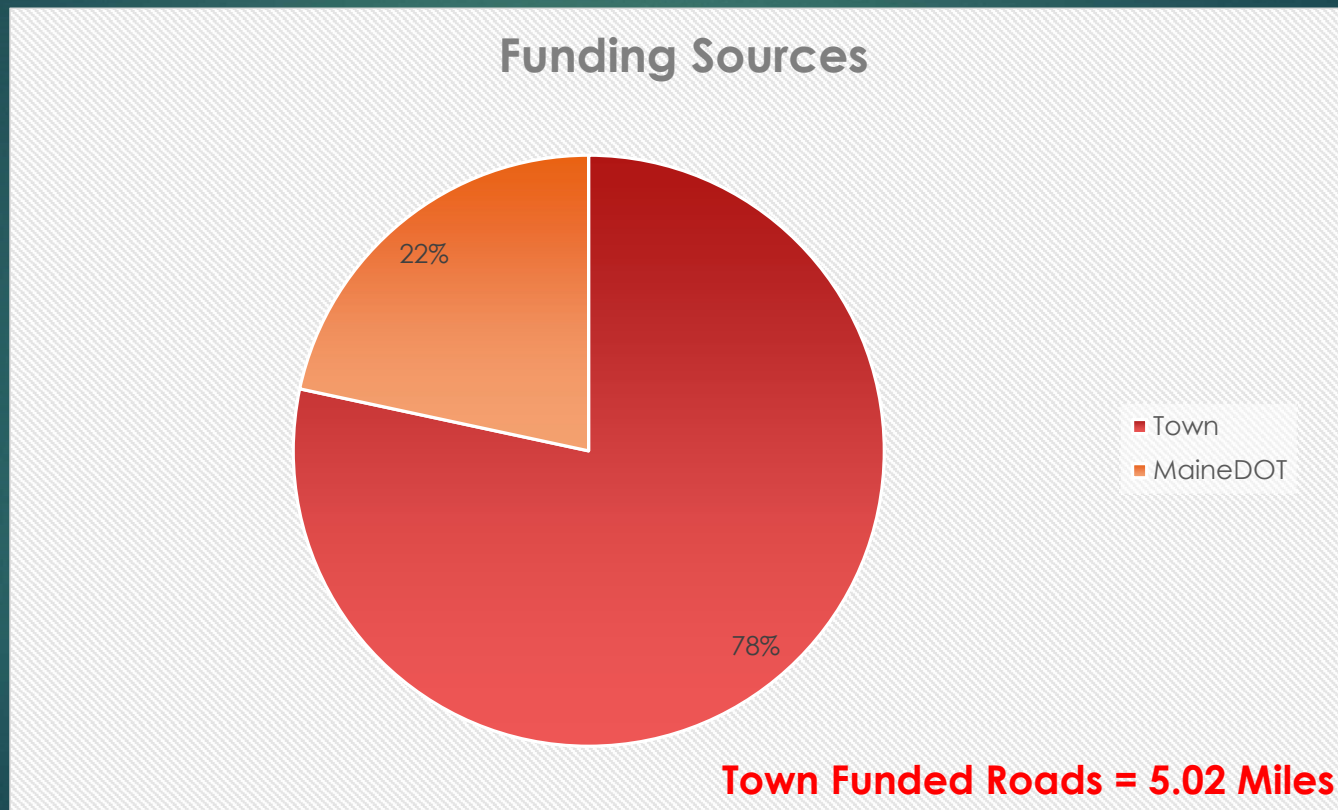
Paving History, 2011-2020

Miles of Roads Paved



Paving History 2020

Funding Sources



Paving History 2020

Funding Sources

Are we paving enough roads? **No**

Are we paving the roads with the correct treatment? **As Budget Allows**

Are our roads getting worse? **Yes**

Could we do better? **Yes**

	Completed	Recommended
LCP		-
Shim & Overlay	4.68	1.46
Mill & Fill	-	2.65
Strip & Pave	0.07	-
Reclaim	0.27	0.64
Reconstruction	-	0.27
Cost	\$ 850,000	\$ 2,000,000
Miles	5.02	5.02
Cost/Mile	\$ 169,486	\$ 398,792

Annual Paving Budget

Miles of Town Maintained Roads	144 Miles
Paving Required annually to maintain PCI	8-10 Miles
Current Budget	\$1,200,000
Current Budget per Mile	\$120k to \$150k
Recommended Budget (Streetlogix)	\$2,500,000
Recommended Budget per Mile (Streetlogix)	\$250k to \$320k
Requested Budget 2021	\$1,500,000

Why Can't You Improve My Road?

Middle Bay Road needs bike lanes

Old Bath Road should be restriped with bike lanes

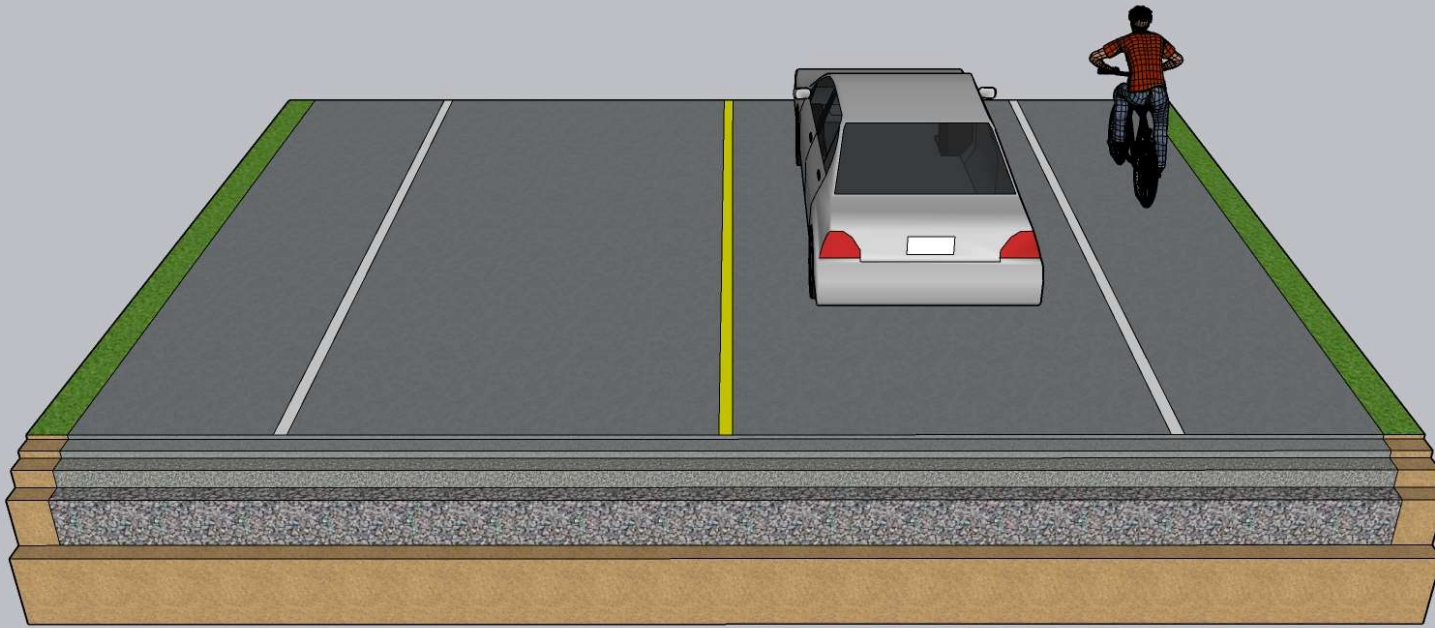
The sidewalk on Jordan Avenue should be extended to Bath Road

Bike signs should be added to Pleasant Hill Road

A crosswalk should be added to Bath Road at Jordan Avenue

Stanwood Street needs a flashing crosswalk

Adding Bike Lanes (Striping Only)



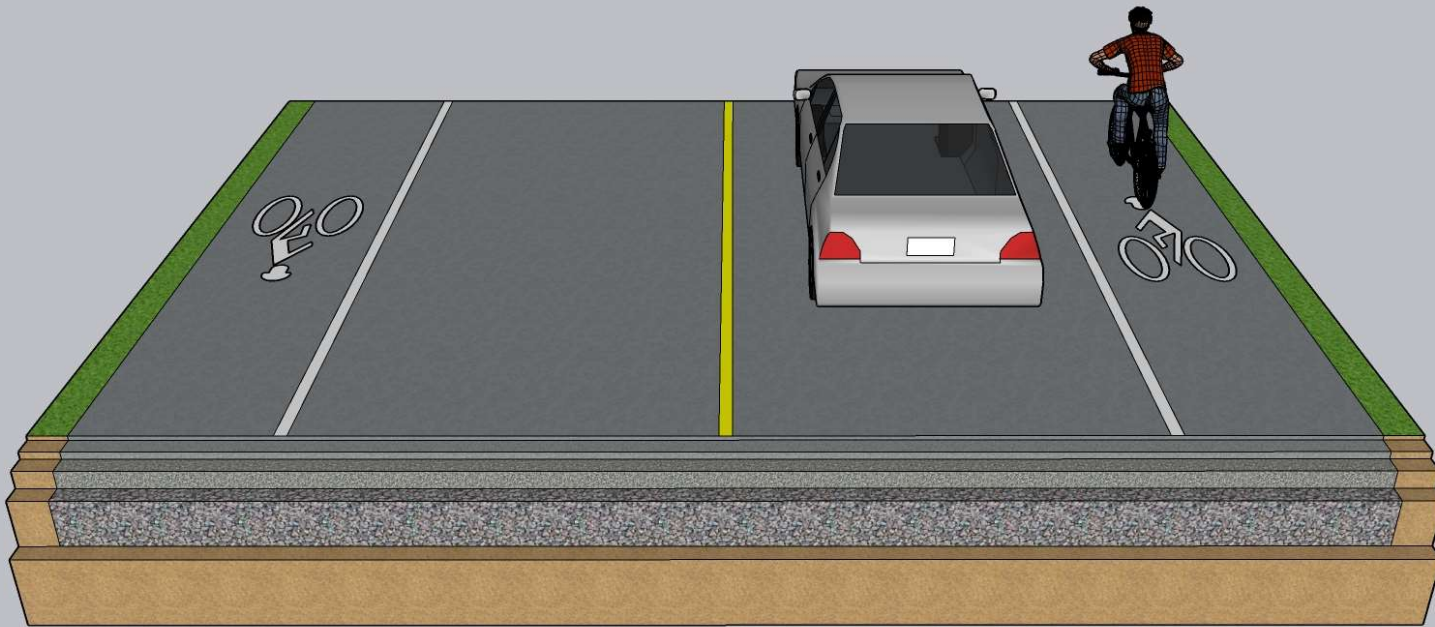
Cost/Mile

=\$3,200

Annual Cost/Mile

=\$1,200

Adding Bike Symbols (Striping Only)



Cost/Mile

=\$2,800

Annual Cost/Mile

=\$700

Adding Bike Lanes (Widening)

1.25" Hot Mix Asphalt - Surface
2.50" Hot Mix Asphalt - Binder
3.00" Aggregate Base Gravel
18.00" Aggregate Subbase Gravel
B0x Cut Shoulders



Cost/Mile

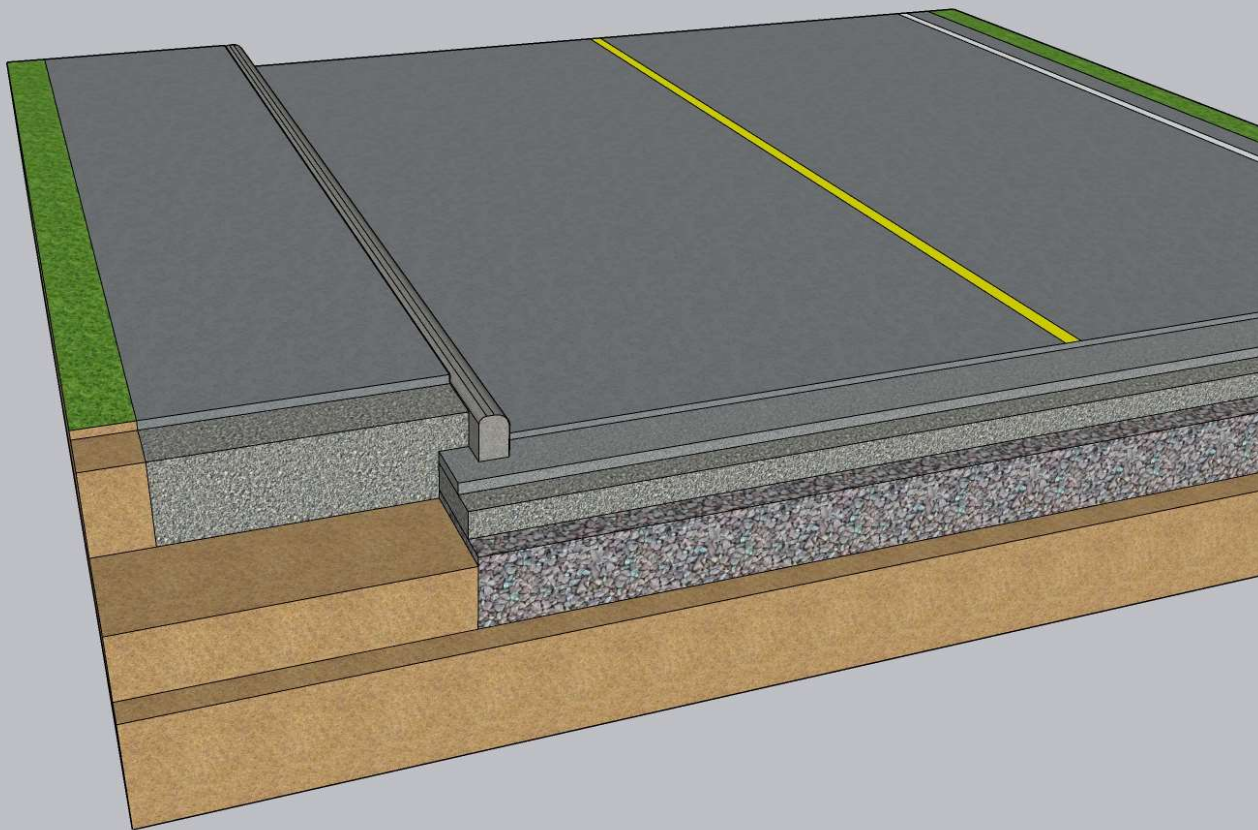
=\$475,000

Annual Cost/Mile

=\$3,000

Adding Sidewalks

(No Drainage new Slipform Curb)



Cost/Mile

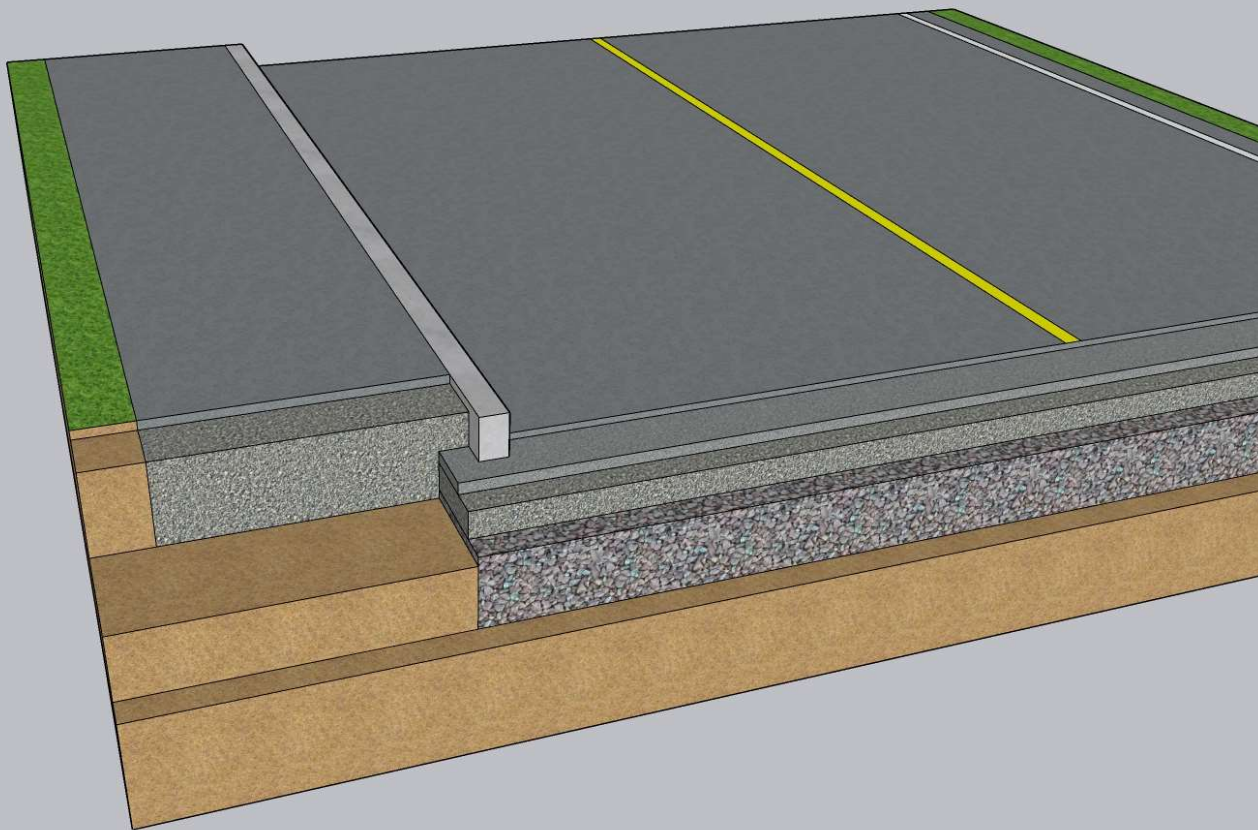
=\$250,000

Annual Cost/Mile

=\$500

Adding Sidewalks

(Existing Drainage new Granite Curb)



Cost/Mile

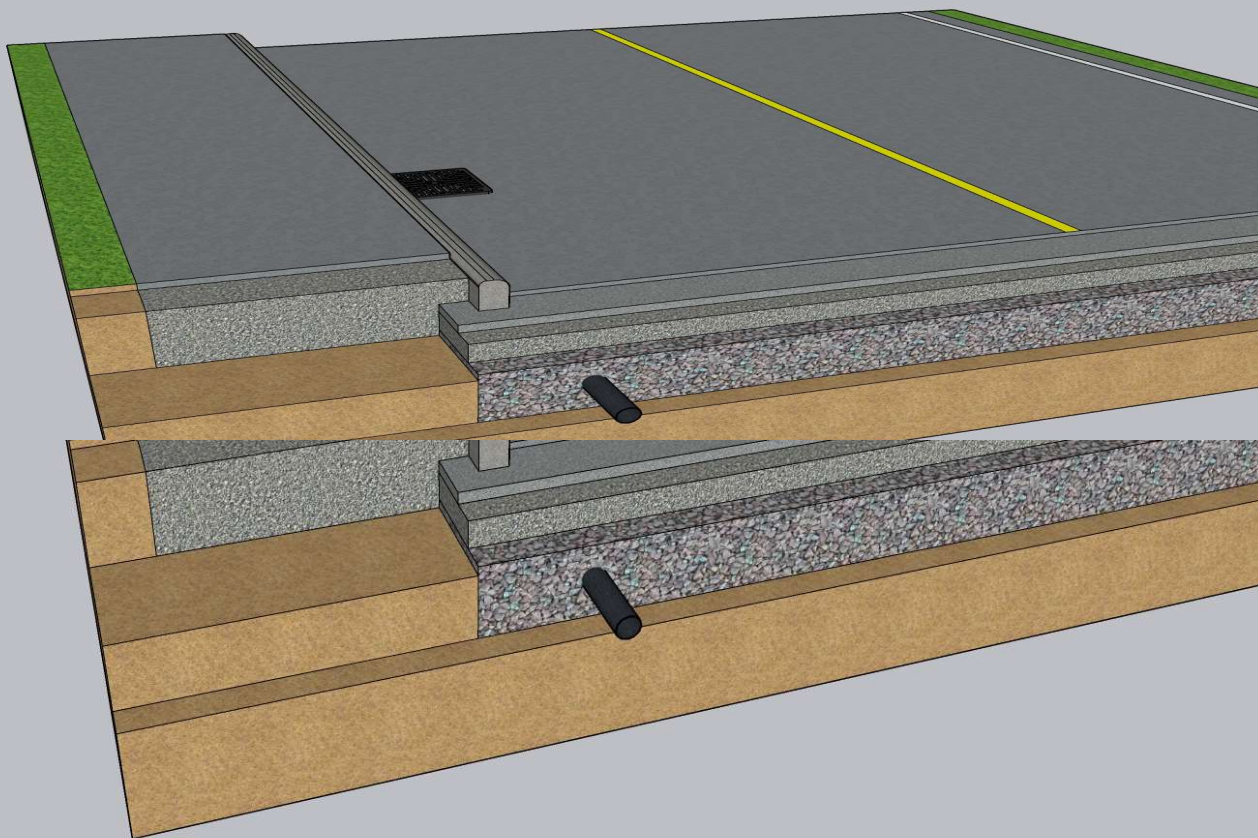
=\$430,000

Annual Cost/Mile

=\$500

Adding Sidewalks

(New Drainage new Slipform Curb)



Cost/Mile

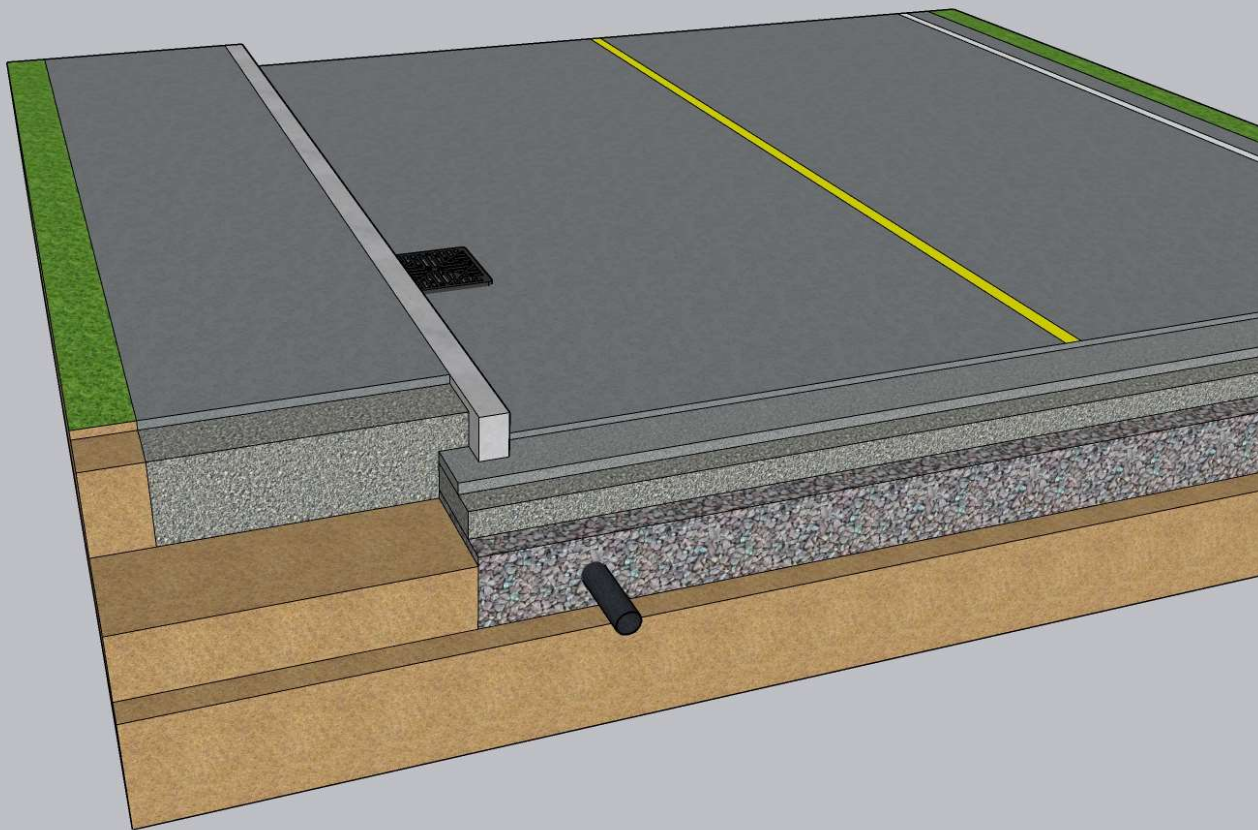
=\$775,000

Annual Cost/Mile

=\$1,000

Adding Sidewalks

(New Drainage new Granite Curb)



Cost/Mile

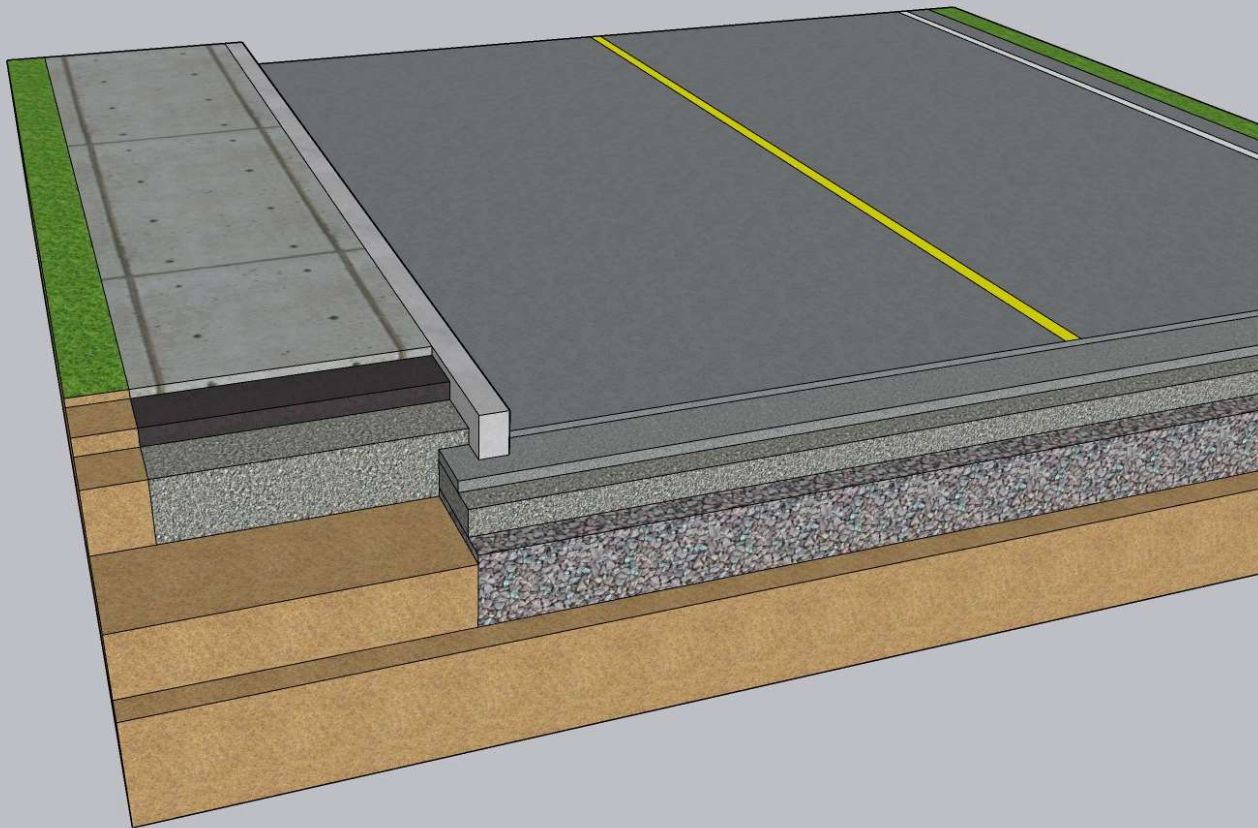
=\$955,00

Annual Cost/Mile

=\$1,000

Adding Sidewalks

(Upgrading to Concrete)



Cost/Mile

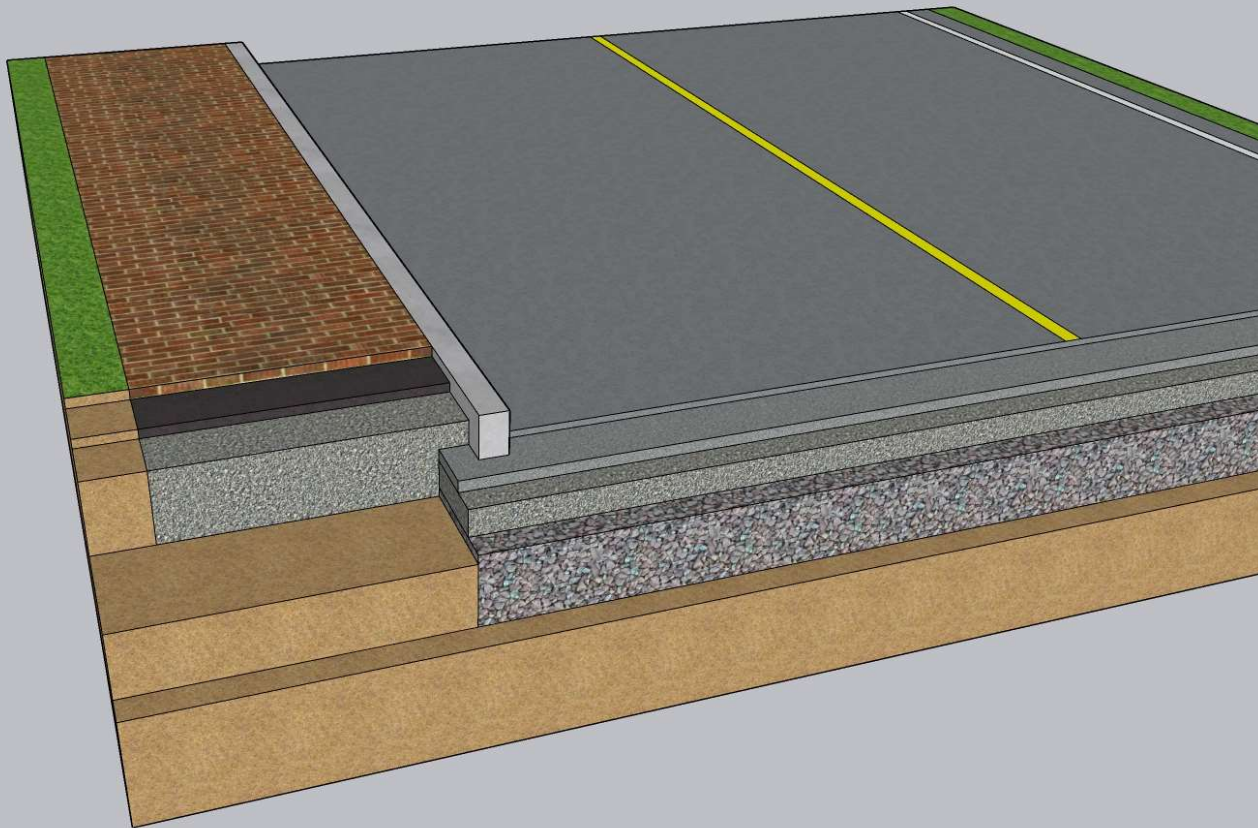
= + \$310,000

Annual Cost/Mile

=\$4,000

Adding Sidewalks

(Upgrading to Brick)



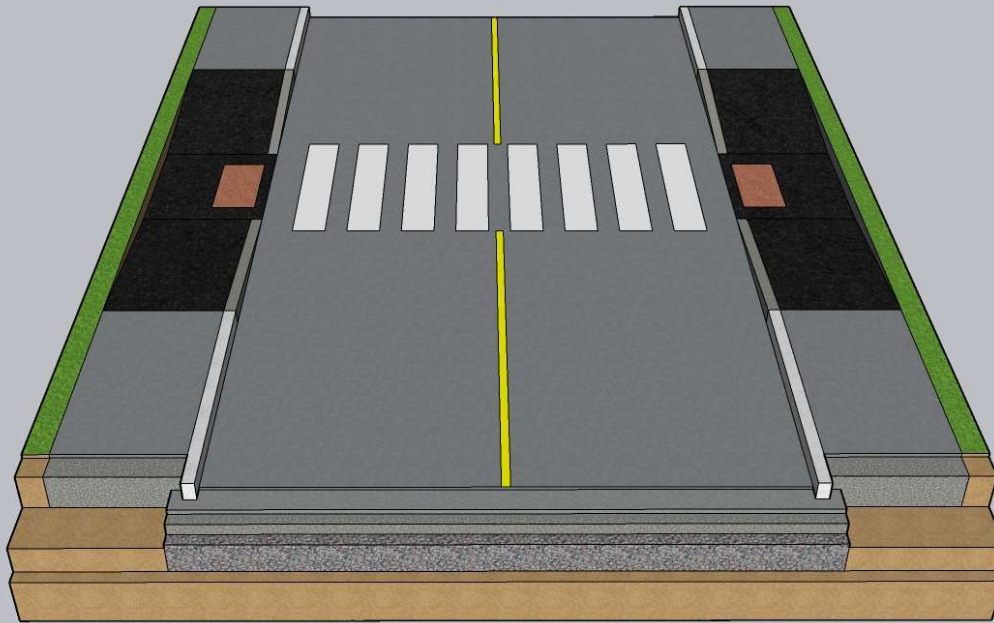
Cost/Mile

= + \$690,000

Annual Cost/Mile

=\$5,000

Adding Crosswalks



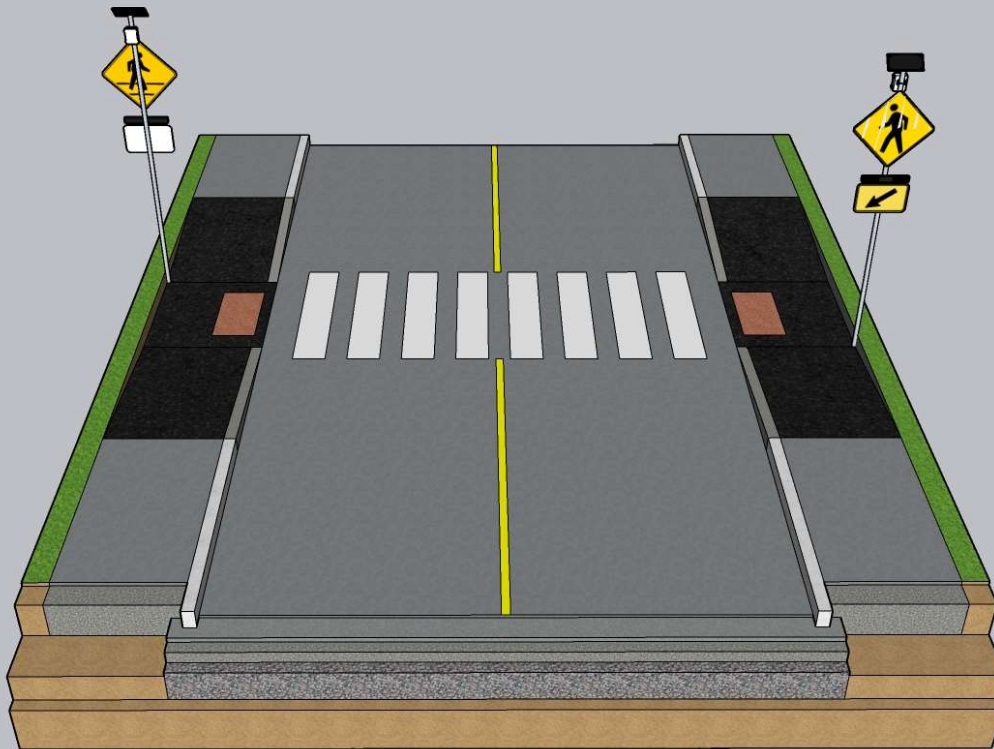
Cost

=\$12,500

Annual Cost/Mile

=\$100

Adding Crosswalks with RRFBs



Cost
=\$30,000

Annual Cost/Mile
=\$100

Treatment/Amenities Cost Summary

	Cost	Annual Cost
<i>Pavement Management</i>		
Light Capital Paving	\$145,000/Mile	\$ -
Shim and Overlay	\$270,000/Mile	\$ -
Mill and Fill	\$395,000/Mile	\$ -
Reclaim and Pave	\$640,000/Mile	\$ -
Reconstruction	\$840,000/Mile	\$ -
<i>Bicycle Upgrades</i>		
Bike Lanes (Striping Only)	\$3,200/Mile	\$1200/Mile
Bike Symbols (Striping Only)	\$2,800/Mile	\$700/Mile
Bike Lanes (Widening)	\$475,000/Mile	\$5,000/Mile
<i>Pedestrian Upgrades</i>		
Adding Sidewalks (Concrete Curb Existing Drainage)	\$250,000/Mile	\$500/Mile
Adding Sidewalks (Granite Curb Existing Drainage)	\$430,000/Mile	\$500/Mile
Adding Sidewalks (Concrete Curb New Drainage)	\$775,000/Mile	\$1,000/Mile
Adding Sidewalks (Granite Curb New Drainage)	\$955,000/Mile	\$1,000/Mile
Upgrading to Concrete Sidewalk	\$310,000/Mile	\$4,000/Mile
Upgrading to Brick Sidewalk	\$690,000/Mile	\$5,000/Mile
<i>Crosswalk Upgrades</i>		
Adding Crosswalks	\$12,500/EA	\$100/EA
Adding Crosswalks w/ RRFB	\$30,000/EA	\$100/EA