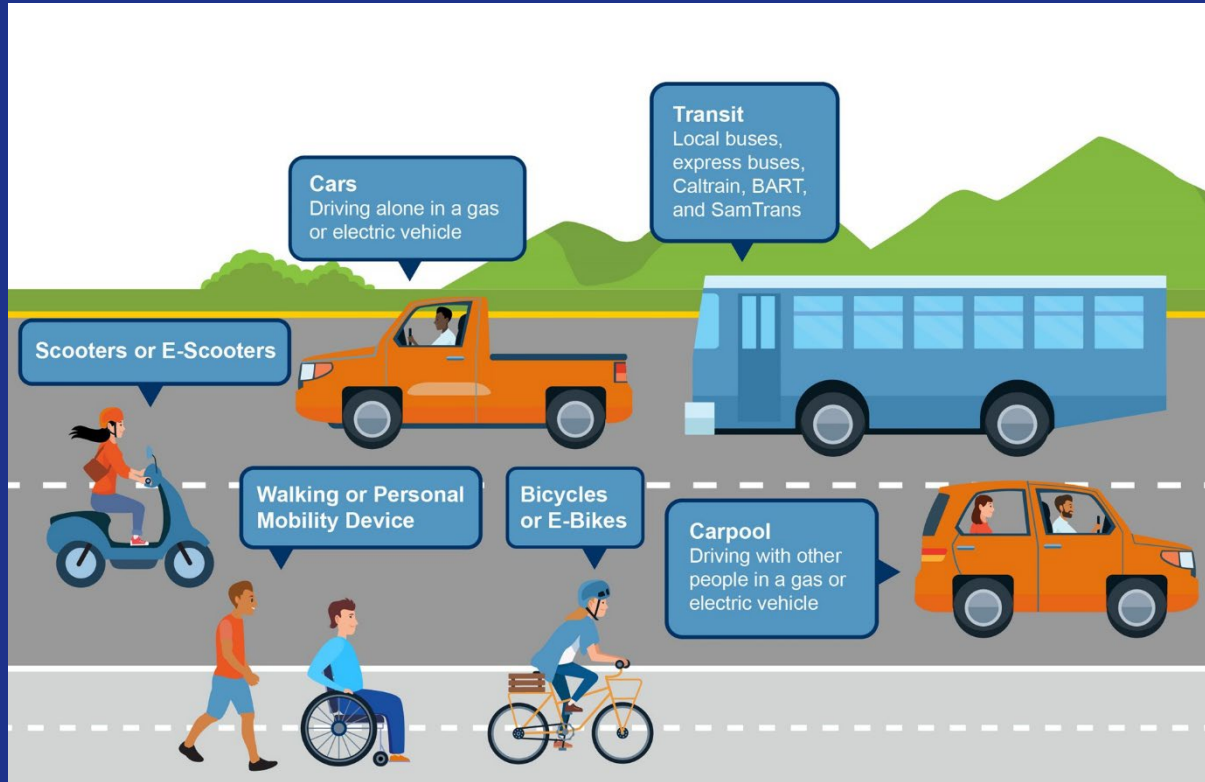




## ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

Motion: Commissioner Weber moves that the Town take affirmative action on Article 8 as printed in the Warrant.

# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE



# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Concord's Pavement Management Today

2025

- Fair to Poor condition: **45%**
- Very Poor: 5%
- Failing: 8%
- **Backlog \$21M**
- **PCI 73**

Status Quo Investment

- Annual budget of \$2.5M
- **10 years total of \$25M**
- Approved year-to-year
- Planning uncertainty

2035

- Fair to Poor condition: **9%**
- Very Poor: **6%**
- Failing : **38%**
- **Backlog: \$37M**
- **PCI 67**

# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Reduce “Backlog”

- Pavement Repair Costs Over Ten Years

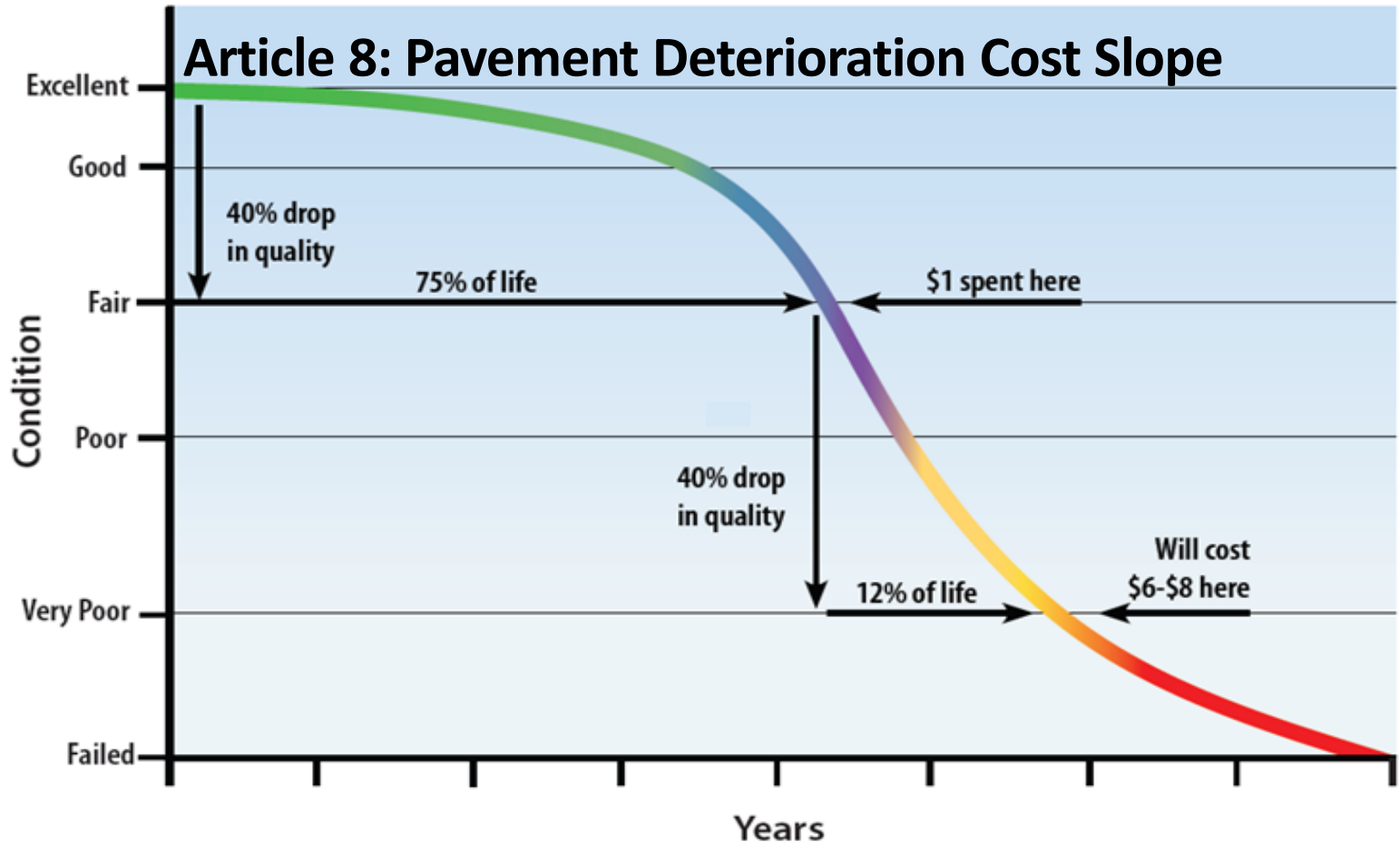
## Advance Safety/Transportation Amenities

- i.e. sidewalk repair, pedestrian crossings, intersection modifications...

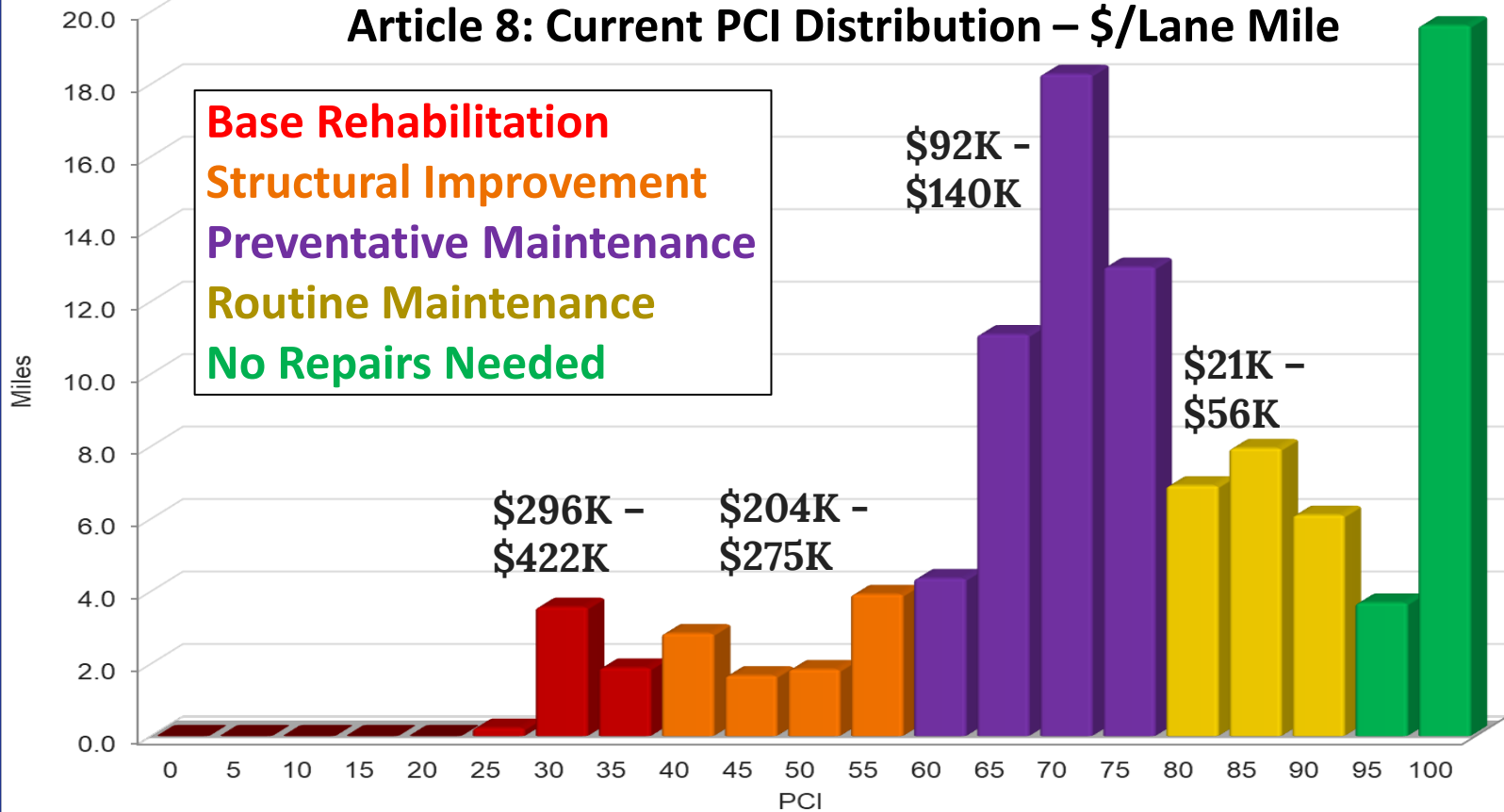
## Invest More Efficiently

- Larger scale multiyear projects
- Improved planning/coordination for more ideal construction schedules
- Improved quality control of work – reduced risk of working in colder weather
- Reduced disturbance/impact on businesses and residents
- Town more competitive for State/Federal grant programs

# Article 8: Pavement Deterioration Cost Slope



## Article 8: Current PCI Distribution – \$/Lane Mile



# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Accelerated Roads and Sidewalk Investment Strategy

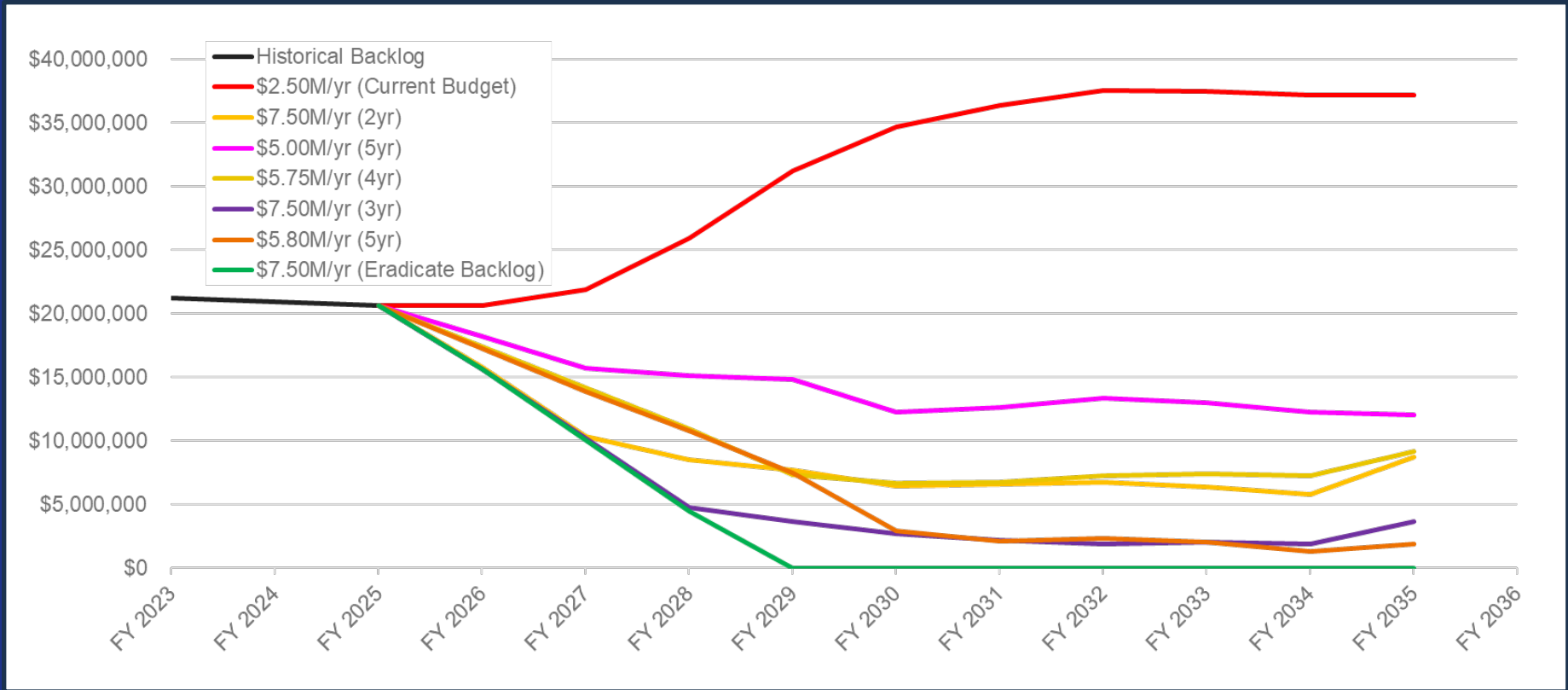
### First 5 Years:

- Increased level of spending to reach desired pavement condition
- Annual cost impact mitigated by financing over 10 years

### 5-10 Years:

- Spending level returns to lower annual spending plan

# Article 8: Backlog Projections for Budget Options



# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Concord's Pavement Management Options

2025

- Fair to Poor condition: 45%
- Very Poor: 5%
- Failing: 8%
- **Backlog \$21M**
- **PCI 73**

Next Ten Years

- **Status Quo: Sum of \$25M**

- **Proposal:**
- **\$25M in next 5 years, \$1.5m annual thereafter**
- **Sum of \$33.5M**

2035

- **Backlog: \$37M**
- **Total: \$62M**
- **PCI – 67 (Fair)**

- **Backlog: \$9M**
- **Total: \$42.4M**
- **PCI – 88 (Good)**

# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Accelerated Roads and Sidewalk Investment Strategy

### Next 5 Years:

- \$25 M for Roads
- \$5 M for Pedestrians & Safety
  
- Total of \$30M invested into infrastructure
- \$27.5M financed by long term debt (10 years -Tier III)
- \$2.5M financed by Chapter 90

## ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

### 10 Years Impact to Average Property Owner (\$1.4M Value)

#### Status Quo:

- \$9,842 in cumulated annual taxes incl. share in liability (backlog)
- Ongoing annual tax for maintenance cost: \$394

#### Proposal:

- \$8,360 in cumulated annual taxes incl. share in liability (backlog + debt balance)
- Ongoing annual tax for maintenance cost: \$236

**Net \$1,482 saving and \$157 lower annual taxes**

## Article 8: The Achievements

- Reduces “back-log” of Pavement Management Spending Needs Over Ten Years
- Include Significant Advancement of Safety/Transportation Elements
  - i.e. sidewalks, pedestrian crossings, intersectional modifications...
- Achieve higher efficiencies:
  - Larger scale multiyear projects
  - Improved planning/coordination for more ideal construction schedules
  - Improved Quality Control of work – reduced risk of working in colder weather
  - Reduced disturbance/impact on businesses and residents
  - Town More Competitive For State/Federal Grant Programs



## **ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE**

Motion: Commissioner Weber moves that the Town take affirmative action on Article 8 as printed in the Warrant.

# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Current Roads Conditions

- 108 Miles of Roads
- Average Pavement Condition Index (PCI) is 73 (Fair), failing quickly
- Liability: Backlog of Identified Repairs is \$21M
  - Backlog is defined as the total town-wide repair cost to bring network conditions to near perfect in one year
  - Backlog includes pavement repair only, no sidewalks, drainage, signals, or intersection improvements

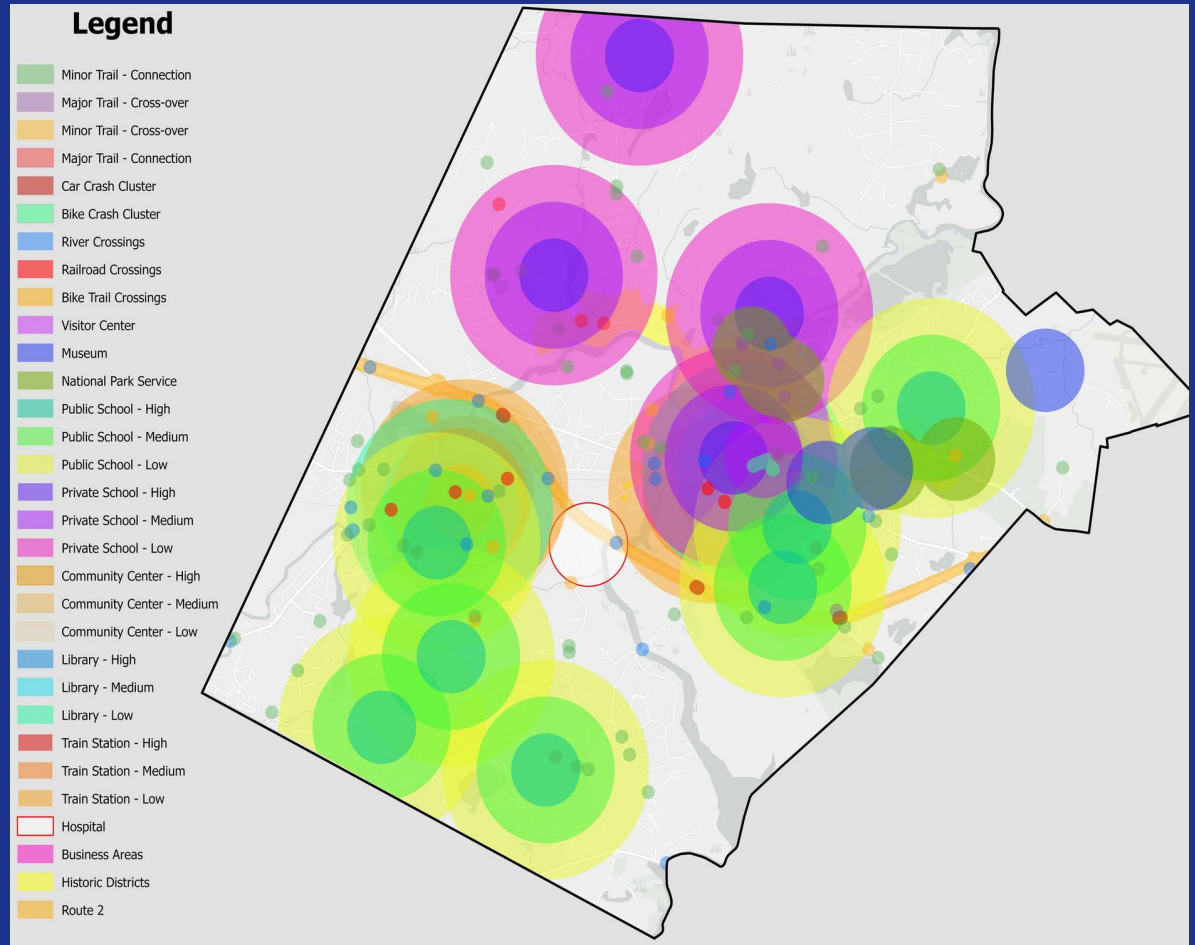
# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Current Sidewalk Conditions

- 59 miles of public sidewalks
- Average Sidewalk Condition Index (SCI) is 74
- Liability: Backlog of Identified Repairs is \$5.8 M
- Repairs include:
  - Localized – saw cutting and patching of sidewalk section and/or replacing a few sidewalk panels. Not completely built to ADA compliance.
  - Full Reconstruction – replacement of entire sidewalk. Built to ADA compliance.

## Article 8: Safety Criteria

- Public/Private Schools
- Train Stations
- Crash Clusters
- Crossing
- Zoning
- Rt 2
- Historic/Rec Sites
- Libraries
- Hospital
- Community Centers



# Article 8: Prioritization Criteria

## Condition Score

- Road Pavement Condition Score

- Sidewalk Severity Score
- Total Safety Intersection Score

## Activity Score

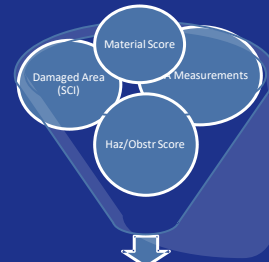
Criteria	Range	Weight
<b>ADA Measurements</b>		
Cross slope	≤2.0	0
	>2.0 and ≤5.0	50
	>5.0	100
Width	<3'	200
	3' - 5'	100
	≥5'	0
<b>Damaged Area (SCI)</b>		
Do Nothing	100-80	0
Localized Repair	79-50	100
Full Reconstruction	49-0	200
<b>Material Score</b>		
Stone Dust		250
Bituminous Concrete		150
Brick		100
Cement Concrete		50
<b>Hazard/Obstruction Score</b>		
Fixed pinch point <48" sidewalk width	<36"	100
	36" - 48"	50
Gate Hazard		50
Sidewalk Surface Hazard		75
Tree Root Hazard		100
Vegetation		25

Criteria	Range	Weight
<b>Missing ADA Infra.</b>		
RAMP_TYPE		
Missing		350
All others		0
<b>Intersection Type</b>		
Y-Intersection		200
Mid-block		100
Non mid-block		0
<b>ADA Measurements</b>		
LAND_EXIST		
Yes		0
No		200
APRON_SL	≤8.7	0
	>8.7 and ≤15.0	50
	>15.0	100
LANDING_SL (Max)	≤2.5	0
	>2.5 and ≤5.0	50
	>5.0	100
RAMP_POS		
Directed		0
Skewed		50
Diagonal		150

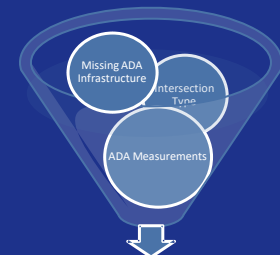
Pavement Condition Score	Range	Weight Range
Do Nothing	100 - 89	0 - 11
Routine Maintenance	88 - 75	12 - 25
Preventative Maintenance	74 - 52	26 - 48
Structural Improvement	51 - 43	49 - 57
Base Rehabilitation	42 - 0	58 - 100



Road Pavement Condition Score



Sidewalk Severity Score



Total Safety Intersection Score

# Article 8: Recommended Pavement Repair Funding Program

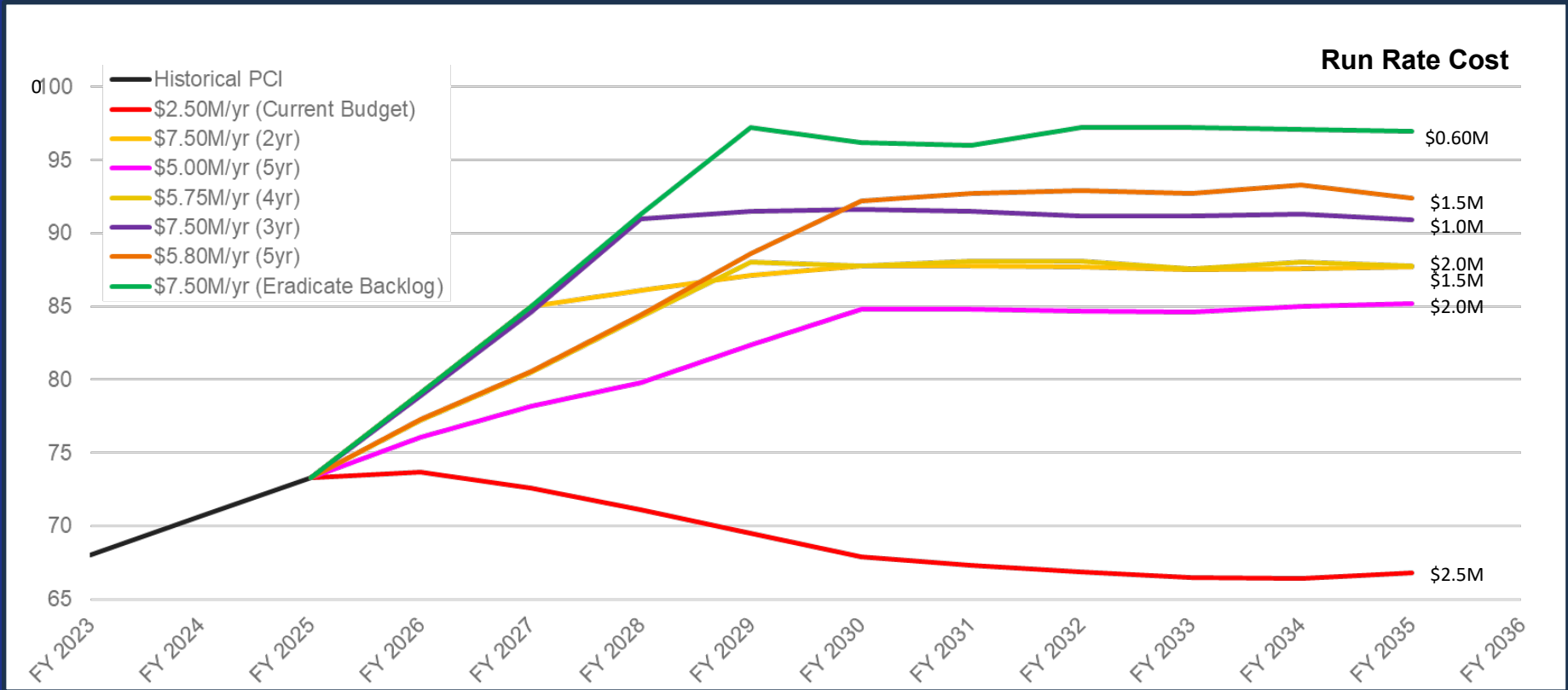
- Increases average roadway network PCI to a higher level 'good' condition index 88-91
- This model better reduces the backlog across all treatment bands
- This model indicates lower annual subsequent long-term run rate cost
- \$19-25M more cost effective
- Allows additional borrowed money to address other sidewalk and safety improvements

	PCI to 68	PCI to 85	PCI to 85	PCI to 88	PCI to 91	PCI to 92	PCI to 97
Year	Current Budget	\$24M Tier III	\$25 Tier III	\$25M Tier III	\$22.5M Tier III	\$29M Tier III	\$35.4M (Eradicate Backlog)
5 Yr Total	\$12.50M	\$24.00M	\$25.00M	\$25.00M	\$26.50M	\$29.00M	\$35.40M
10 Yr Total	\$25.00M	\$34.00M	\$35.00M	\$33.50M	\$33.50M	\$37.50M	\$38.40M
Annual Cost – Long-term	\$2.5M	\$2.0M	\$2.0M	\$1.5M	\$1.0M	\$1.5M	\$600K
Backlog	\$37.20M	\$9.10M	\$12.00M	\$9.10M	\$3.70M	\$1.90M	\$0.00
10Yr Total + Backlog	\$62.20M			\$42.50M			

# Article 8: Recommended Pavement Repair Funding Program

Year	PCI to 68	PCI to 85	PCI to 85	PCI to 88	PCI to 91	PCI to 92	PCI to 97
	Current Budget	\$24M Tier III	\$25 Tier III	\$25M Tier III	\$22.5M Tier III	\$29M Tier III	\$35.4M (Eradicate Backlog)
FY 2026	\$2.50M	\$7.50M	\$5.00M	\$5.75M	\$7.50M	\$5.80M	\$7.50M
FY 2027	\$2.50M	\$7.50M	\$5.00M	\$5.75M	\$7.50M	\$5.80M	\$7.50M
FY 2028	\$2.50M	\$3.00M	\$5.00M	\$5.75M	\$7.50M	\$5.80M	\$7.50M
FY 2029	\$2.50M	\$3.00M	\$5.00M	\$5.75M	\$2.00M	\$5.80M	\$7.50M
FY 2030	\$2.50M	\$3.00M	\$5.00M	\$2.00M	\$2.00M	\$5.80M	\$5.40M
FY 2031	\$2.50M	\$2.00M	\$2.00M	\$2.00M	\$2.00M	\$2.00M	\$600k
FY 2032	\$2.50M	\$2.00M	\$2.00M	\$2.00M	\$2.00M	\$2.00M	\$600k
FY 2033	<b>\$2.50M</b>	\$2.00M	<b>\$2.00M</b>	<b>\$1.50M</b>	\$1.00M	\$1.50M	\$600k
FY 2034	<b>\$2.50M</b>	\$2.00M	<b>\$2.00M</b>	<b>\$1.50M</b>	\$1.00M	\$1.50M	\$600k
FY 2035	<b>\$2.50M</b>	\$2.00M	<b>\$2.00M</b>	<b>\$1.50M</b>	\$1.00M	\$1.50M	\$600k

# Article 8: PCI Projections for Budget Options



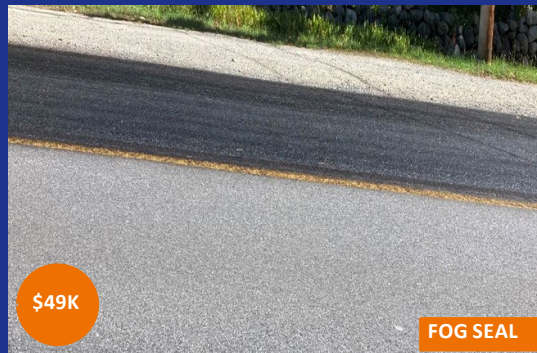
# Article 8: Recommended 5 Year Spend Down

Component	Pavement: \$7.5M/yr (2yr) Ped/Bike: \$750k/yr	Pavement: \$7.5M/yr (2yr) Ped/Bike: \$1.0M/yr	Pavement: \$7.5M/yr (2yr) Ped/Bike: \$1.2M/yr	Pavement: \$5.75M/yr (4yr) Ped/Bike: \$650k/yr	Pavement: \$5.75M/yr (4yr) Ped/Bike: \$1.0M/yr	Pavement: \$5.75M/yr (4yr) Ped/Bike: \$1.2M/yr	Pavement: \$7.5M/yr (3yr) Ped/Bike: \$750k/yr	Pavement: \$7.5M/yr (3yr) Ped/Bike: \$1.0M/yr	Pavement: \$7.5M/yr (3yr) Ped/Bike: \$1.2M/yr	Pavement: \$5.8M/yr (5yr) Ped/Bike: \$750k/yr	Pavement: \$5.8M/yr (5yr) Ped/Bike: \$1.0M/yr	Pavement: \$5.8M/yr (5yr) Ped/Bike: \$1.2M/yr
Pavement	\$24.0M	\$24.0M	\$24.0M	\$25.0M	\$25.0M	\$25.0M	\$26.5M	\$26.5M	\$26.5M	\$29.0M	\$29.0M	\$29.0M
Pedestrian & Bike Safety Improvements	\$3.75M	\$5.00M	\$6.00M	\$3.25M	\$5.00M	\$6.00M	\$3.75M	\$5.00M	\$6.00M	\$3.75M	\$5.00M	\$6.00M
New Sidewalks	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M	\$0.00M
<b>TOTAL*:</b>	<b>\$27.8M</b>	<b>\$29.0M</b>	<b>\$30.0M</b>	<b>\$28.3M</b>	<b>\$30.0M</b>	<b>\$31.0M</b>	<b>\$30.3M</b>	<b>\$31.5M</b>	<b>\$32.5M</b>	<b>\$32.8M</b>	<b>\$34.0M</b>	<b>\$35.0M</b>
Tier III	\$18.8M	\$20.0M	\$21.0M	\$25.6M	\$27.5M	\$30.0M	\$25.2M	\$26.5M	\$27.5M	\$27.8M	\$29.0M	\$30.0M

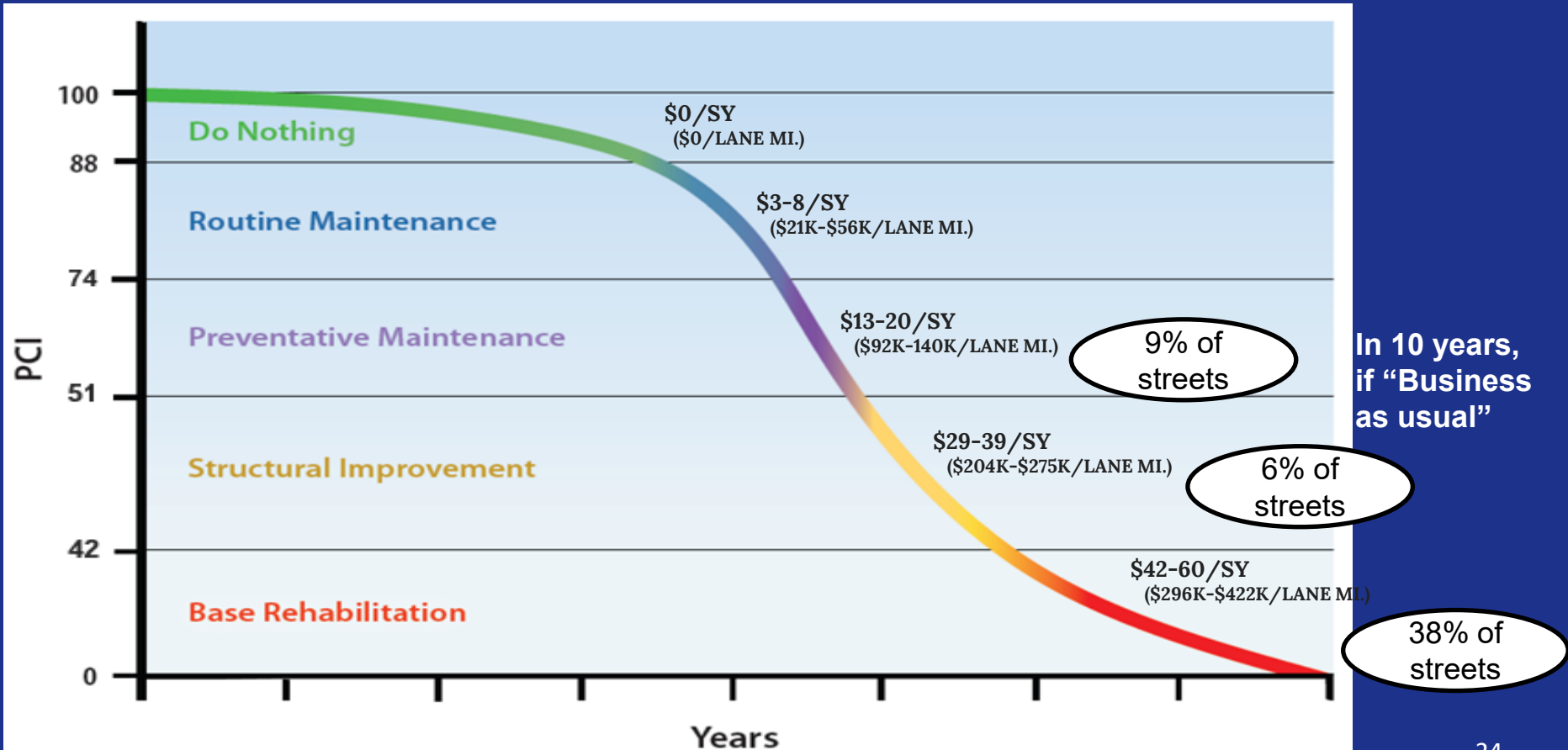
# Article 8: Pavement Condition Examples



# Article 8: Pavement Treatments & Cost per Lane Mile

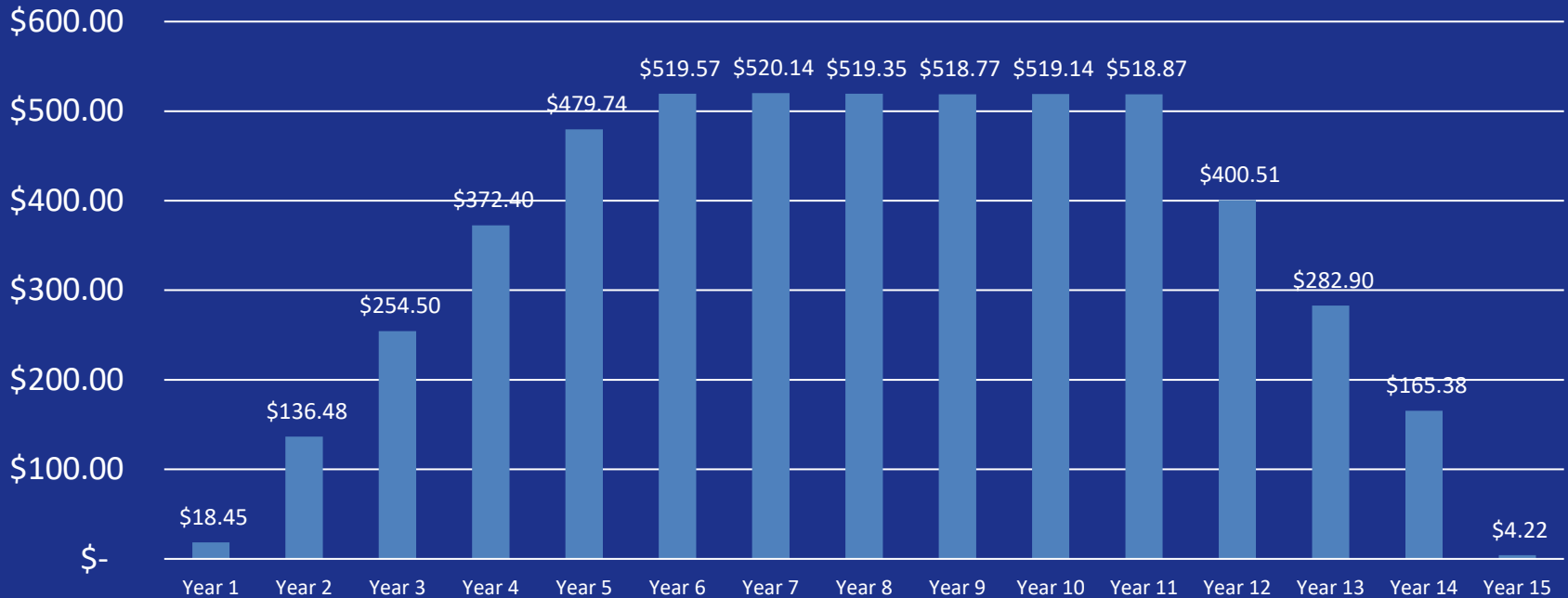


# Article 8: Pavement Management Cost Slope



# ARTICLE 8. DEBT EXCLUSION FOR ROAD MAINTENANCE

## Debt Service for Average Property Value (\$1.4M)



Town of Concord, Massachusetts

Existing & Proposed Exempt Debt

Estimated Bond Rate: 3.75%

2025 Assessed Value: \$ 9,379,716,636

2025 Average Single Family Home Value: 1,477,028

Annual Road Program (\$6.25M years 1 - 4 and \$2.5M year 5) - Exempt from the Limits of Proposition 2½

Bonds Issued on a Level Debt Service Basis - 10-year Term

Fiscal Year	page 2						page 3		page 4		page 5		page 6		page 7		Tax Impact of Proposed Debt		Tax Impact of Existing + Proposed Debt	
	(a) Existing Excluded Debt Service	(b) Proposed \$6,250,000 Roads Bonds dated October 1, 2025 (year 1)	(c) Proposed \$6,250,000 Roads Bonds dated October 1, 2026 (year 2)	(d) Proposed \$6,250,000 Roads Bonds dated October 1, 2027 (year 3)	(e) Proposed \$6,250,000 Roads Bonds dated October 1, 2028 (year 4)	(f) Proposed \$2,500,000 Roads Bonds dated October 1, 2029 (year 5)	(g) = (b) + (c) + (d) + (e) + (f) Aggregate Proposed Excluded Debt Service	(h) Residential Tax Impact per \$100,000 of Assessed Value	(i) Tax Impact on Average Home Valued at \$1,477,028	(j) = (a) + (g) Aggregate Existing & Proposed Excluded Debt Service	(k) Residential Tax Impact per \$100,000 of Assessed Value	(l) Tax Impact on Average Home Valued at \$1,477,028								
6/30/2025	\$ 6,490,880	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,490,880	\$ 69.20	\$ 1,022.14									
6/30/2026	7,866,389	117,188	-	-	-	-	1.25	18.45	7,983,576.13	85.12	1,257.20									
6/30/2027	7,433,675	749,531	117,188	-	-	-	9.24	136.48	8,300,393.75	88.49	1,307.09									
6/30/2028	7,351,525	749,469	749,531	117,188	-	-	17.23	254.51	8,967,712.50	95.61	1,412.17									
6/30/2029	6,520,025	748,656	749,469	749,531	117,188	-	25.21	372.40	8,884,868.75	94.73	1,399.13									
6/30/2030	5,869,900	752,000	748,656	749,469	749,531	46,875	32.48	479.75	8,916,431.25	95.06	1,404.10									
6/30/2031	5,844,775	749,500	752,000	748,656	749,469	299,813	35.18	519.57	9,144,212.50	97.49	1,439.97									
6/30/2032	5,814,650	751,156	749,500	748,656	749,500	301,750	35.22	520.14	9,117,712.50	97.21	1,435.79									
6/30/2033	5,784,400	746,969	751,156	749,500	752,000	298,406	35.16	519.35	9,082,431.25	96.83	1,430.24									
6/30/2034	5,753,900	746,938	746,969	751,156	749,500	299,781	35.12	518.77	9,048,243.75	96.47	1,424.86									
6/30/2035	5,727,775	750,875	746,938	746,969	751,156	300,781	35.15	519.14	9,024,493.75	96.21	1,421.12									
6/30/2036	5,700,525	748,781	750,875	746,969	746,938	301,406	35.13	518.87	8,995,493.75	95.91	1,416.55									
6/30/2037	5,672,350	-	748,781	750,875	746,938	296,750	27.12	400.51	8,215,693.75	87.59	1,293.75									
6/30/2038	5,649,775	-	-	750,875	748,781	296,813	19.15	282.90	7,446,243.75	79.39	1,172.58									
6/30/2039	5,622,500	-	-	-	748,781	301,406	11.20	165.38	6,672,687.50	71.14	1,050.77									
6/30/2040	5,602,200	-	-	-	-	300,531	3.20	47.33	5,902,731.25	62.93	929.52									
6/30/2041	5,582,000	-	-	-	-	-	-	-	5,582,000.00	59.51	879.01									
6/30/2042	5,561,800	-	-	-	-	-	-	-	5,561,800.00	59.30	875.83									
6/30/2043	4,986,400	-	-	-	-	-	-	-	4,986,400.00	53.16	785.22									
6/30/2044	4,982,700	-	-	-	-	-	-	-	4,982,700.00	53.12	784.64									
6/30/2045	4,988,500	-	-	-	-	-	-	-	4,988,500.00	53.18	785.55									
6/30/2046	4,988,300	-	-	-	-	-	-	-	4,988,300.00	53.18	785.52									
6/30/2047	4,987,000	-	-	-	-	-	-	-	4,987,000.00	53.17	785.32									
6/30/2048	4,989,500	-	-	-	-	-	-	-	4,989,500.00	53.20	785.71									
6/30/2049	4,990,300	-	-	-	-	-	-	-	4,990,300.00	53.20	785.84									
6/30/2050	4,984,300	-	-	-	-	-	-	-	4,984,300.00	53.14	784.89									
6/30/2051	2,840,200	-	-	-	-	-	-	-	2,840,200.00	30.28	447.26									
6/30/2052	2,839,200	-	-	-	-	-	-	-	2,839,200.00	30.27	447.10									
6/30/2053	2,839,200	-	-	-	-	-	-	-	2,839,200.00	30.27	447.10									
	<u>\$ 158,264,644</u>	<u>\$ 7,611,063</u>	<u>\$ 7,611,063</u>	<u>\$ 7,611,063</u>	<u>\$ 7,611,063</u>	<u>\$ 3,044,313</u>			<u>\$ 191,753,206</u>											

Assumptions:

- \*Estimated and subject to change.
- \*Existing excluded debt service does not include MCWT betterment debt.
- \*Bond structured on a level debt service basis.
- \*Tax Impact assumes no growth in assessed value over the life of the bonds.
- \*Tax Impact assumes the residential to commercial/industrial/personal property tax rate shift remains constant over the life of the bonds.
- \*Tax Impact assumes the average home value will remain constant over the life of the bonds.