

City of Martinez
Pavement Management Program
P-TAP 14
Budget Options Report

Submitted to:

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March 16, 2015



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Engineering • Inspection

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EXECUTIVE SUMMARY

Quality Engineering Solutions, Inc. (QES) completed an update of the existing StreetSaver® database for 121.6 miles of city streets (representing 100% of the street network) and developed a current Budget Options Report. Pavement inspections were completed in July 2014. Maintenance and rehabilitation history data, provided by the City, was updated. In addition, the maintenance decision tree treatments and costs were updated to conform to new ADA policy and current City practices. A budgetary needs analysis was performed based on the updated inspections and treatment costs, and five budget scenarios were evaluated to compare the effects of various funding levels.

The City of Martinez is responsible for the repair and maintenance of approximately 121.6 centerline miles of streets, or 938 pavement sections. The City’s street network replacement value is estimated at \$125 million. This represents a significant asset for City officials to manage. This asset valuation is assessed by the assumption of replacing the entire street network at today’s dollar. Based upon the field condition surveys completed, the average overall network PCI of the City’s street network is 51, which indicates that the street network is classified in the ‘Good’ condition category. The pavement condition of the City’s street network could deteriorate to ‘Poor’ condition category quickly without adequate budget to complete the recommended maintenance treatments. The Executive Performance Summary, as printed from StreetSaver® is provided as Figure 1 and illustrates the historical trend of the City’s pavement performance.

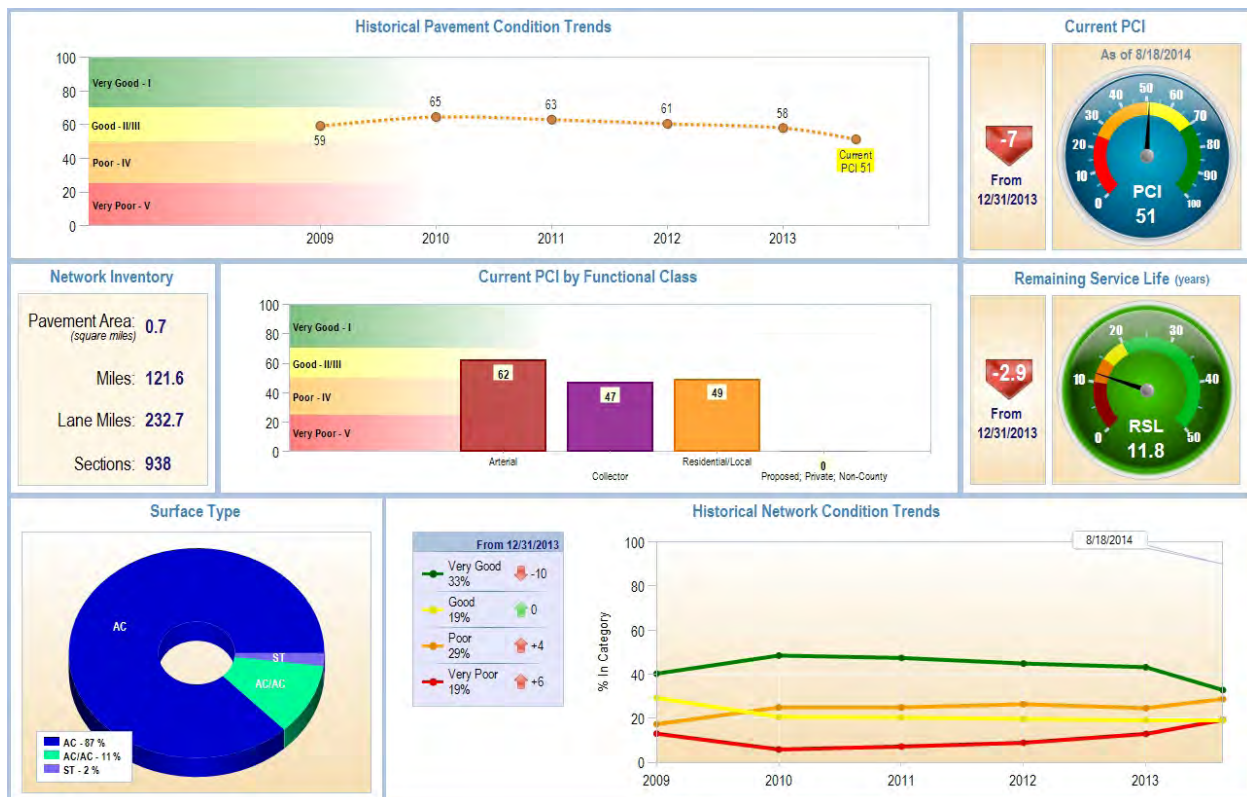


Figure 1. Executive Performance Summary

Contained within the report are five different budget scenarios, each run for a five-year period. The following reports were developed:

1. *Unconstrained (zero “deferred” maintenance)* — The annual maintenance and rehabilitation dollars, as identified in the Budget Needs analysis totaling \$69.5 million, were input into the Budget Scenarios module. This scenario shows the effects of implementing the ideal investment strategy (as recommended by the MTC PMP Needs module). Because it is more cost-effective to eliminate the deferred maintenance backlog as quickly as possible, the bulk of the maintenance needs are addressed in the first year of the five year program, raising the PCI to 86.
2. *Current Investment Level* — an annual budget of \$1 million was analyzed to evaluate the effect of the current investment level on the pavement condition. Under this budget scenario, the deferred maintenance backlog will increase to \$65.5 million and the network PCI will decrease to 44 after five years.
3. *Maintain Current PCI* — In order to maintain the current PCI level at 51, a Target-Driven Scenario model was used to determine the required budget. The result indicated that a five year total of \$17.6 million is needed, with \$16.4 million for rehabilitation and \$1.2 million for preventive maintenance.
4. *Increase Current PCI by 5 points* — In order to increase the current overall PCI by 5 points, to 56, by the end of the fifth year, a Target-Driven Scenario model was used to determine the required budget. The results indicate that a five year total of \$24 million is needed, with \$22.8 million for rehabilitation and \$1.2 million for preventive maintenance.
5. *Do Nothing* — If no maintenance or rehabilitation is applied over the next five years, the condition of the network will deteriorate to an overall PCI of 40. The maintenance backlog will increase to \$68 million.

Of the various maintenance and funding options considered, the *ideal* strategy for the City of Martinez is presented in Scenario 1, with a five-year expenditure total of \$69.5 million. Not only does this budget plan improve the network PCI to an optimal level of 86, it also eliminates the entire deferred maintenance backlog in the first year. However, the amount of funds required in the first year, approximately \$37.6 million, make this strategy unrealistic for the City of Martinez. This scenario can, however, be used as a base line for comparing other scenarios.

Under Scenario 2, the network PCI will decrease to about 44 over the next five years, which indicates the current investment level has almost no impact on preventing the deterioration of the current pavement condition. The percentage of the street network falling in the ‘Very Poor’ category will increase from 22% in 2015 to 41.9% in 2019, and the maintenance backlog will increase from \$36.6 million to \$65.5 million. The City’s current funding level is clearly insufficient to maintain the whole of the street network in ‘Good’ condition.

The City has been using the PMP and appears to be hanging on to an overall “good” condition of the street network, although, unless these annual funds are increased to \$4 million or more, the overall street condition will rapidly deteriorate. With additional funding, the backlog would be reduced and additional preventive maintenance treatments could be applied, which over time will enhance the overall network.

BACKGROUND

QES was selected as part of the Metropolitan Transportation Commission (MTC) Pavement Management Technical Assistance Program (P-TAP Round 15) to perform an inspection of all 121.6 miles of city streets (representing 100% of the street network) and to update the Budget Options Report. All inspections were completed in accordance with MTC standards, and the StreetSaver® Online 9.0 database was updated with the inspection data. Pavement inspections were completed in July 2014. MTC provided QES access to the Martinez StreetSaver® database in May 2014. Maintenance and rehabilitation history data, provided by the City, was updated. In addition, the maintenance decision tree treatments and costs were reviewed, confirmed, and/or updated to reflect current pavement maintenance treatment prices. Section segments were reviewed while in the field and combined or added where needed, bringing the total number of sections to 938. A budgetary needs analysis was performed based on the updated inspections and treatment costs, and five budget scenarios were evaluated to compare the effects of various funding levels.

PURPOSE

This report is intended to assist the City with identifying street maintenance priorities specific to its current conditions and budget levels. The report evaluates the overall condition of the street network and highlights the impacts of various funding levels on the network pavement condition and deferred maintenance funding shortfalls. The MTC StreetSaver® Pavement Management Program (PMP) was used for this evaluation. The intent of this program is to develop a maintenance strategy that will improve the overall condition of the street network to an optimal Pavement Condition Index (PCI) and also to maintain it at that level.

The MTC StreetSaver® program maximizes the return from expenditures by recommending a multi-year street maintenance and rehabilitation plan based on the most cost-effective repairs available. A comprehensive preventative maintenance (PM) program is a critical component of this plan, as these PM treatments extend the life of good pavements at a much lower cost than rehabilitation, overlay, or reconstruction treatments. To this end, various “what-if” scenarios under different funding levels were conducted to determine the most cost-effective plan for maintaining the City’s street network over the next five years.

NETWORK DESCRIPTION AND EXISTING PAVEMENT CONDITION

The City of Martinez is responsible for the repair and maintenance of approximately 121.6 centerline miles of streets, or 938 pavement sections. The City’s street network replacement value is estimated at \$125 million. This represents a significant asset for City officials to manage. This asset valuation is assessed by the assumption of replacing the entire street network at today’s dollar.

Based upon the field condition surveys completed, the average overall network PCI of the City’s street network is 51, which indicates that the street network is near the bottom of the ‘Good’ condition. The typical MTC definitions of pavement condition categories are based upon the PCI value and are defined as identified in Figure 2. The PCI is a measurement of pavement condition that ranges from 0 to 100. A newly constructed or overlaid street would have a PCI of 100, while a failed road (requiring complete reconstruction) would have a PCI under 10. Table 1 summarizes the number of sections, length, and average PCI of the network by functional class. Figure 3 presents the pavement condition categories of the network. As shown, 50.1% of

network falls into the ‘Very Good’ or ‘Good’ condition category, while 49.9% of network falls into the ‘Poor’ or ‘Very Poor’ condition category. Illustrated in Figure 4 is a GIS-based map of the current network PCI conditions. A section-by-section listing of the current condition is provided in Section 1 (sorted alphabetically and also by descending PCI value), while the detail network statistic summary and replacement costs are provided in Section 2.

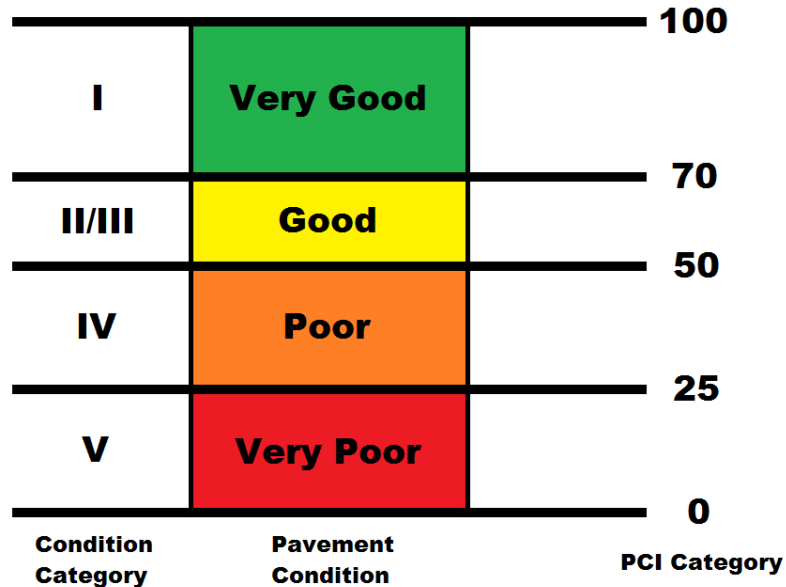


Figure 2. Pavement Condition Categories

Table 1. Street Network Statistics and Average PCI by Functional Class

Functional Class	Total Sections	Total Center Miles	Total Lane Miles	PCI
Arterial	60	18.19	43.99	62
Collector	100	21.30	44.50	46
Residential/Local	776	82.02	144.07	49
Proposed; Private; Non-County	2	0.11	0.11	0
Total	938	121.62	232.67	
Overall Network PCI as of 9/9/2014:				51

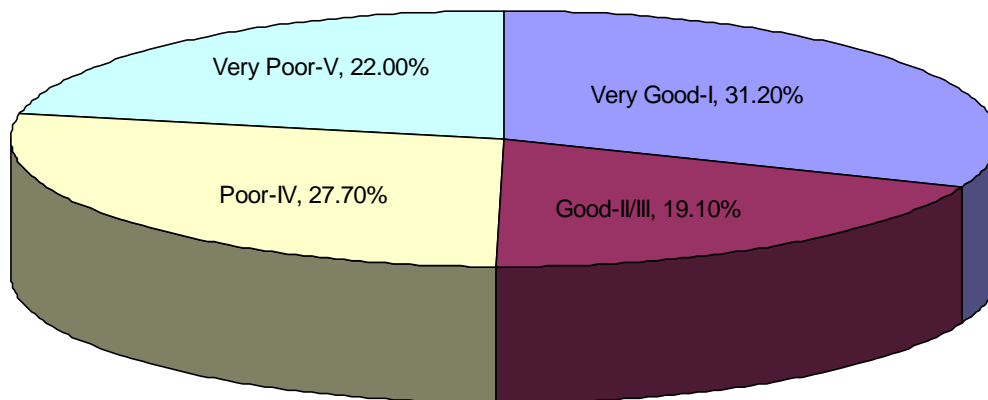


Figure 3. Pavement Condition Summary by Condition Categories (2014)

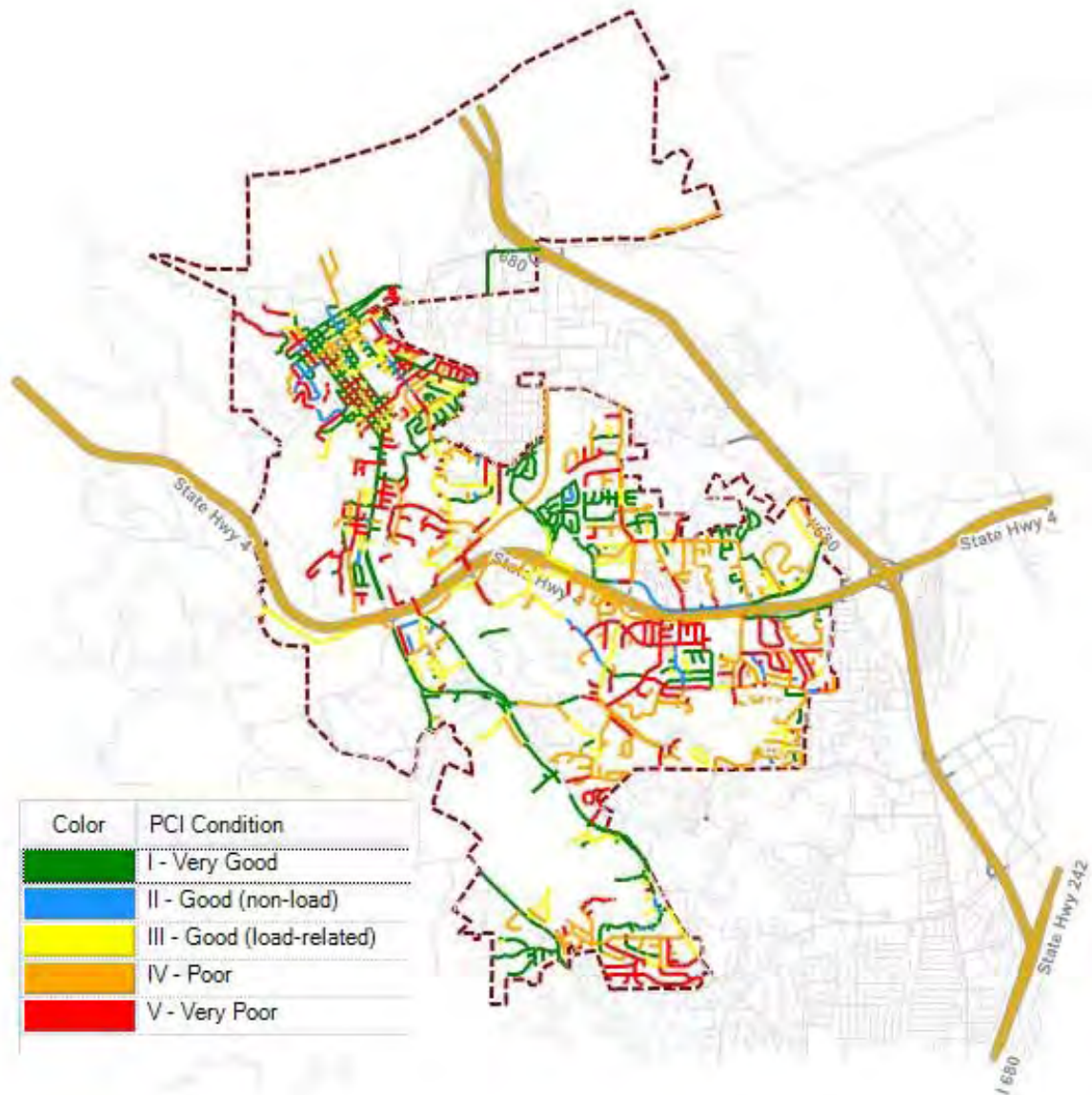


Figure 4. GIS-based Map for Current Network PCI Conditions

Based upon the current pavement condition, maintenance and rehabilitation options are selected using a series of decision trees. A decision tree utilizes the known information, such as roadway type, surface type, and current conditions and then determines a representative maintenance or rehabilitation treatment for that section. It is important to remember that the decision trees are utilized on a network level basis primarily for determining budgetary needs and may not entirely represent the actual project level work that would be most appropriate. At the request of the City, the decision trees were updated to account for new treatments (fiber microsurfacing) and full depth reclamation as well as to account for current costs and ADA requirements. The decision trees utilized for the Budget Options are provided in Section 3.

The decision trees were updated to reflect the latest estimate of current pricing based upon cost information for Contra Costa County as provided by MTC (Section 3.1). These decision trees were also updated to include the impact of the latest ADA requirement on the pavement

resurfacing projects. Since this is a fairly new practice and the fact that MTC does not currently have any guidance or costs associated with the ADA requirements, an estimated cost increase was devised based upon a review of the literature. Several agencies have reported cost increases ranging from 10 to 50% based upon the ADA requirements. Therefore, the price for all types of HMA overlay and surface reconstruction was increased by 20%. In addition, the fiber microsurfacing treatment was introduced to replace some AC overlays under condition Categories I and II for Arterial and Collector routes. For routes other than Collector and Arterial, the fiber microsurfacing was introduced to replace AC overlay under condition Categories I, II, and III. A base cost of \$5.00 was used for fiber microsurfacing based upon pricing information provided by VSS International with an additional 20% added for ADA requirements, which brings the unit price of the fiber microsurfacing to \$6.00/yd². An additional 20% cost increase is included when the fiber microsurfacing is applied to the pavement under condition Category III to account for patching and other surface preparation, resulting in a unit cost of \$7.20/yd² for this situation. The updated decision tree utilized for this analysis is provided in Section 3.2.

Nearly 10% of the sections were classified in the road category as “Other” at the beginning of this project. At the request of the City, our staff reviewed each of these roadways and reclassified them as “Arterial,” “Collector,” or “Residential/Local” while in the field. These recommended classifications were provided to the City for review. A few streets were further reclassified after receiving the City’s input, resulting in three sections being classified as “Arterial,” nine sections classified as “Collector,” and 82 sections classified as “Residential/Local.”

BUDGET NEEDS

Based on the principle that it costs less to maintain streets in good condition than those in poor, the MTC PMP strives to develop a maintenance strategy that will first improve the overall condition of the network to an optimal PCI somewhere between the low and mid-80s, and then sustain it at that level. Although the average PCI for the City street network is 51, which is in the ‘Good’ condition category, a significant area of the network suffers from load-related distress. In addition, current funding strategies demonstrate there is a \$36.6 million deferred maintenance backlog in the first year of the scenario. If these issues are not addressed, the quality of the street network will inevitably decline. In order to correct these deficiencies, a cost-effective funding and maintenance and rehabilitation strategy must be implemented.

The first step in developing a cost-effective maintenance and rehabilitation strategy is to determine, assuming unlimited revenues, the maintenance “needs” of the City of Martinez’s street network.

In determining relative budget scenarios over a five year period, representative interest and inflation rates must be chosen to be used in the analysis. The interest rate is used to describe an annual percentage increase in invested funds that would be realized if it were not instead spent on rehabilitation and maintenance activities. The inflation rate describes the rate of change of prices especially in relation to the construction cost index where a positive inflation rate indicates a loss in purchasing power over time and a negative inflation rate indicates an increase in purchasing power. Purchasing power simply describes the number of goods or services that can be purchased with a unit of currency.

QES has determined that an interest rate of 2% would best represent the annual increase that would be realized for any funds that were invested over time. QES has also reviewed the current construction cost index as well as the national inflation rate and determined that an inflation rate of 3% would best represent the annual decrease in purchasing power over the next five years.

Using the PMP Budget Needs module, street maintenance needs are estimated at \$69.5 million over the next five years. If the City follows the strategy recommended by the program, the average network PCI will increase to 86. If, however, current pavement maintenance funding is exhausted and little or no maintenance is applied over the next five years, already distressed streets will continue to deteriorate, and the network PCI will drop to 40. The results of the Budget Needs analysis are summarized in Table 2 below.

Table 2. Summary of Results from Needs Analysis

Year	PCI Treated	PCI Untreated	PM Cost	Rehab Cost	Total Cost
2015	79	50	\$610,435	\$36,980,166	\$37,590,601
2016	81	47	\$182,355	\$9,381,960	\$9,564,315
2017	82	45	\$247,811	\$6,278,250	\$6,526,061
2018	87	42	\$210,490	\$13,041,360	\$13,251,850
2019	86	40	\$245,915	\$2,312,313	\$2,558,228
		%PM	PM Total Cost	Rehab Total Cost	Total Cost
		2.15%	\$1,497,006	\$67,994,049	\$69,491,055

Table 2 shows the level of expenditure required to raise the City’s pavement condition to an optimal network PCI of 86 and eliminate the current maintenance and rehabilitation backlog. The results of the Budget Needs analysis represent the ideal funding strategy recommended by the MTC PMP. Of the \$69.5 million in maintenance and rehabilitation needs shown, approximately \$1.5 million or 2.15% is earmarked for preventive maintenance or life-extending treatments, while the remaining \$68.0 million or 97.85% is allocated for more costly rehabilitation and reconstruction treatments.

Figure 5 is based on the Budget Needs Predictive Module. The PMP is recommending a funding level of \$69.5 million over a five-year period. Figure 5 illustrates funding distribution by street functional classification. A more complete Budget Needs analysis is provided in Section 4.

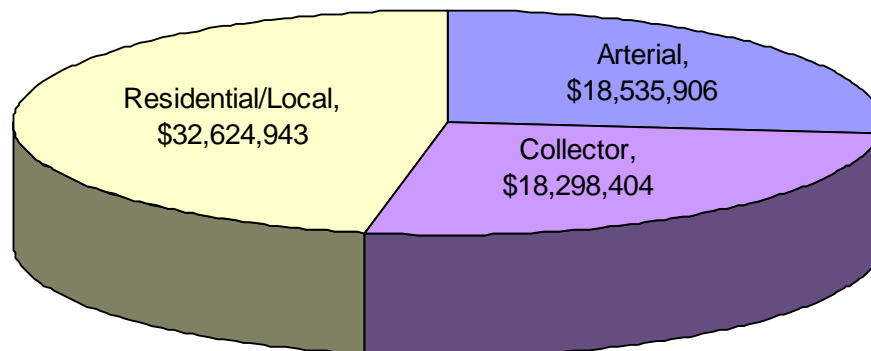


Figure 5. Budget Distribution by Functional Classification

BUDGET SCENARIOS

Having determined the maintenance and rehabilitation needs of the City's street network, the next step in developing a cost-effective maintenance and rehabilitation strategy is to conduct "what-if" analyses. Using the PMP Budget Scenarios module, the impact of various budget scenarios was evaluated. The program projects the effects of the different scenarios on PCI and deferred maintenance (backlog). By examining the effects on these indicators, the advantages and disadvantages of different funding levels and maintenance strategies become clear. For the purpose of this report, the following scenarios were run for a five-year period.

1. *Unconstrained (zero "deferred" maintenance)* — The annual amounts, as identified in the Budget Needs analysis totaling \$69.5 million, were input into the Budget Scenarios module. This scenario shows the effects of implementing the ideal investment strategy (as recommended by the MTC PMP Needs module). Because it is more cost-effective to eliminate the deferred maintenance backlog as quickly as possible, the bulk of the maintenance needs are addressed in the first year of the five year program raising the PCI to 86. The preventive maintenance split for each year in the analysis period, as recommended by the Budget Needs module, was used.

2. *Current Investment Level* — An annual budget of \$1 million was analyzed to evaluate the effect of the current investment level on the pavement condition. A 5% preventive maintenance split was used. Stop gap costs are taken from preventative maintenance funds.

3. *Maintain Current PCI* — In order to maintain current PCI level at 51, a Target-Driven Scenario model was used to determine the required budget. The result indicated that a five year total of \$17.6 million is needed, with \$16.4 million for rehabilitation and \$1.2 million for preventive maintenance. The deferred maintenance will increase from \$37.2 million in 2015 to \$52.9 million in 2019.

4. *Increase Current PCI by 5 points* — In order to increase current PCI by 5 points, to 56, by the end of the fifth year, a Target-Driven Scenario model was used to determine the required budget. The result indicated that a five year total of \$24 million is needed, with \$22.8 million for rehabilitation and \$1.2 million for preventive maintenance.

5. *Do Nothing* — If no maintenance or rehabilitation is applied over the next five years, the condition of network will deteriorate to an overall PCI of 40. The maintenance backlog will increase to \$68 million.

Scenario 1 – Unconstrained (zero "deferred" maintenance)

This scenario shows the effects of implementing the ideal investment strategy (as recommended by the MTC PMP Needs module). Because it is more cost-effective to eliminate maintenance backlog as quickly as possible, the bulk of the maintenance need is addressed in the first year of the five-year program, raising the PCI to 86. By 2018, 97.9% of the network falls into the 'Very Good' condition category. In the meanwhile, the maintenance backlog will be eliminated after the treatments applied in year one. These results are shown in both Table 3 and Figure 6 and the detailed budget scenario results are provided in Section 5.1.

Table 3. Summary of Results from Scenario 1

Item	Budget Year				
	2015	2016	2017	2018	2019
Total Budget	\$37,590,601	\$9,564,315	\$6,526,061	\$13,251,850	\$2,558,228
Rehabilitation	\$36,980,166	\$9,381,960	\$6,278,250	\$13,041,360	\$2,312,313
Preventive Maintenance	\$610,435	\$182,355	\$247,811	\$210,490	\$245,915
Deferred Maintenance	\$0	\$0	\$0	\$0	\$0
PCI after Treated	79	81	82	87	86

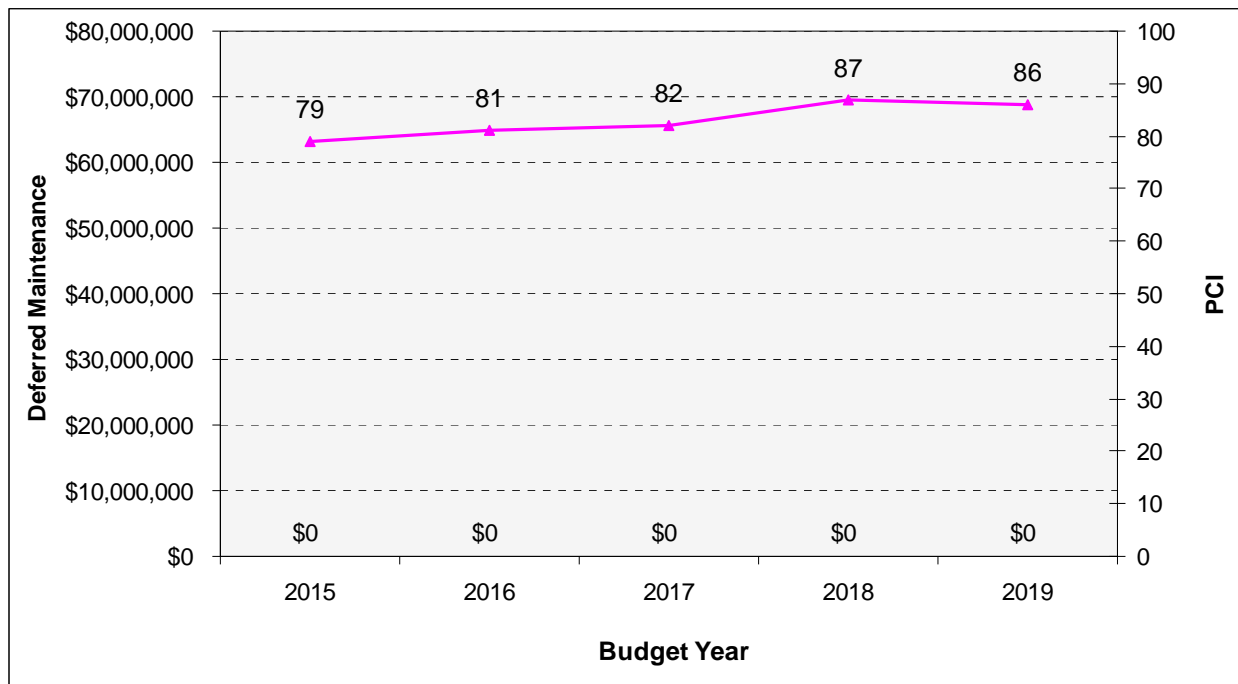


Figure 6. Deferred Maintenance & PCI after Treatment – Scenario 1

Scenario 2 – Current Investment Level

An annual budget of \$1 million was analyzed to evaluate the effect of the current investment level on the pavement condition. Under this budget scenario, the deferred maintenance backlog will increase from \$36.6 million in 2015 to \$65.5 million in 2019. There are no funds available for preventive maintenance, and the fund for the stop gap would not be met prior to the year 2018. The network PCI will decrease from the current level to 44 after five years.

The above analysis indicates that the City is currently way behind on corrective maintenance and rehabilitation needs and these limited funding levels have almost no impact on preventing the deterioration of the current pavement condition. The City should seriously considered finding means to increase its current investment level in order to maintain the current pavement condition. Table 4 and Figure 7 summarize the results from Scenario 2. Detailed budget scenario results are provided in Section 5.2.

Table 4. Summary of Results from Scenario 2

Item	Annual Budget - \$1,000,000				
	2015	2016	2017	2018	2019
Total Budget	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Rehabilitation	\$945,861	\$950,007	\$946,862	\$949,996	\$948,182
Preventive Maintenance	\$0	\$0	\$0	\$0	\$17,312
Stop Gap (Funded)	\$54,152	\$50,006	\$53,146	\$50,009	\$34,476
Stop Gap (Unmet)	\$400,809	\$84,726	\$11,198	\$92,688	\$0
Deferred Maintenance	\$36,644,599	\$40,426,679	\$45,302,667	\$58,187,236	\$65,541,370
PCI after Treated	52	50	48	46	44

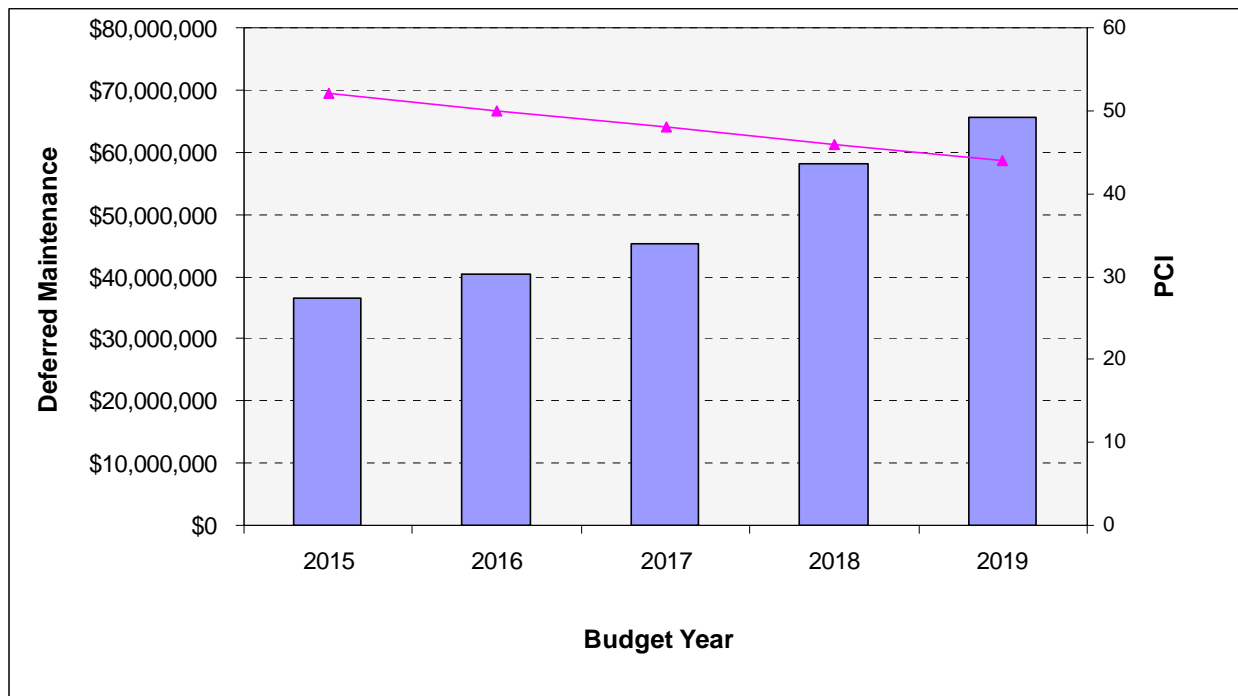


Figure 7. Deferred Maintenance & PCI after Treatment – Scenario 2

Scenario 3 – Maintain Current PCI

This scenario shows what the budget level must be in order to maintain the street network PCI at the current level of 51 over the five year period. Under this scenario, a total of \$17.6 million is needed, with \$16.4 million for rehabilitation and \$1.2 million for preventive maintenance. While the PCI is stabilized, the annual budget will vary between \$0.3 million and \$6.7 million in 2018. The deferred maintenance will increase from \$37.2 million in 2015 to \$52.9 million in 2019. By the year 2019, 51.3% of network will fall into the ‘Very Good’ condition category while 40.3% of network will fall into the ‘Very Poor’ condition category. Table 5 and Figure 8 summarize results from Scenario 3. Detailed budget scenario results are provided in Section 5.3.

Table 5. Summary of Results from Scenario 3

Item	Budget Year				
	2015	2016	2017	2018	2019
Total Budget	\$368,105	\$1,839,688	\$5,365,272	\$6,822,923	\$3,261,515
Rehabilitation	\$316,325	\$1,103,009	\$5,095,667	\$6,667,217	\$3,260,942
Preventive Maintenance	\$51,780	\$736,679	\$269,605	\$155,706	\$573
Deferred Maintenance	\$37,222,653	\$40,073,246	\$40,376,748	\$47,232,236	\$52,856,796
PCI after Treated	51	51	51	51	51

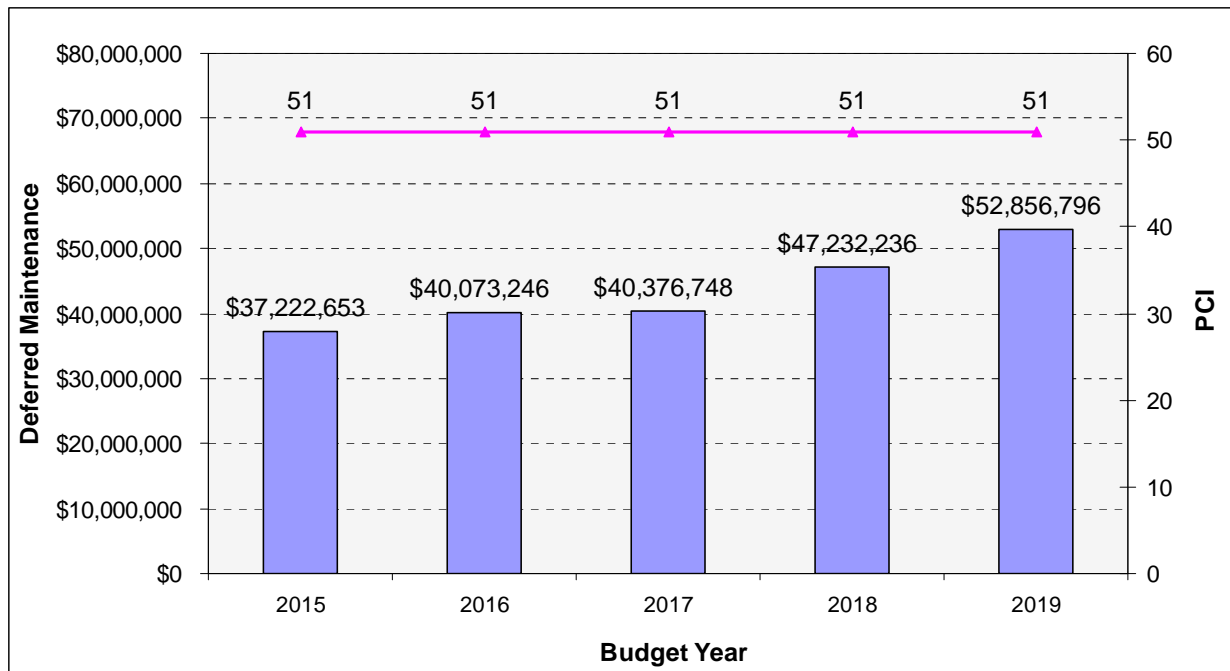


Figure 8. Deferred Maintenance & PCI after Treatment – Scenario 3

Scenario 4 – Increase Current PCI by 5 Points

Similar to Scenario 3, this scenario shows what the budget level must be in order to increase the street network PCI from the current level of 51 to 56 in year 2019. Under this scenario, a total of \$24 million is needed, with \$22.8 million for rehabilitation and \$1.2 million for preventive maintenance. The annual budget will vary between \$0.7 million and \$7.5 million. The deferred annual maintenance backlog varies between \$35.2 million to \$48.7 million within the next five years. By the year 2019, 58.2% of network will fall into ‘Very Good’ condition category, while 36.1% of network will fall into ‘Very Poor’ condition category. Table 6 and Figure 9 summarize the results from Scenario 4. Detailed budget scenario results are provided in Section 5.4.

Table 6. Summary of Results from Scenario 4

Item	Budget Year				
	2015	2016	2017	2018	2019
Total Budget	\$799,598	\$5,263,005	\$7,767,947	\$5,866,694	\$4,304,000
Rehabilitation	\$747,818	\$4,505,217	\$7,520,136	\$5,710,956	\$4,302,251
Preventive Maintenance	\$51,780	\$757,788	\$247,811	\$155,738	\$1,749
Deferred Maintenance	\$36,790,861	\$36,265,163	\$35,188,315	\$44,220,691	\$48,713,589
PCI after Treated	52	53	54	55	56

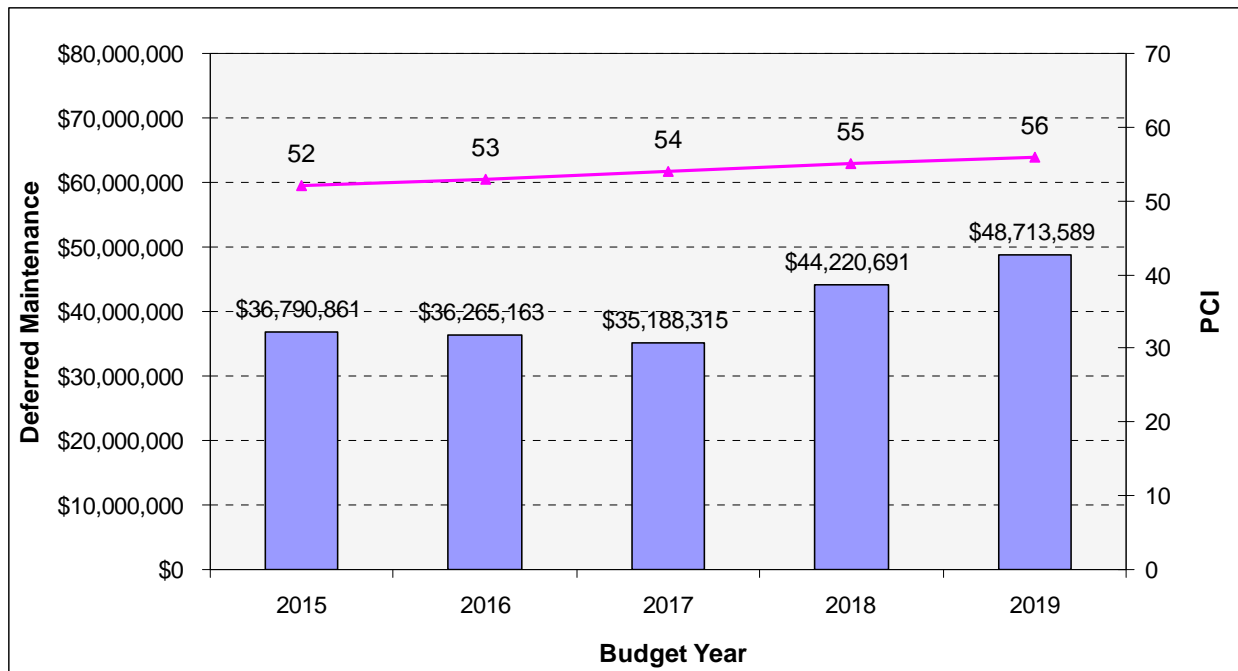


Figure 9. Deferred Maintenance & PCI after Treatment – Scenario 4

Scenario 5 – Do Nothing

Under this scenario, there will be no pavement maintenance work and the network PCI will decrease year by year. The network PCI will decrease from the current level of 51 to 40 after five years. In the meantime, the maintenance backlog will increase significantly from \$37.6 million to \$68.0 million in 2019. By 2019, only 24.6% of the network will be in the ‘Very Good’ condition category, while 41.9% of the network will fall into the ‘Very Poor’ condition category. Table 7 and Figure 10 summarize the results from Scenario 5. Detailed budget scenario results are provided in Section 5.5

Table 7. Summary of Results from Scenario 5

Item	Budget Year				
	2014	2015	2016	2017	2018
Total Budget	\$0	\$0	\$0	\$0	\$0
Rehabilitation	\$0	\$0	\$0	\$0	\$0
Preventive Maintenance	\$0	\$0	\$0	\$0	\$0
Deferred Maintenance	\$37,590,447	\$42,187,548	\$47,444,966	\$60,599,067	\$68,045,868
PCI after Treated	50	47	45	42	40

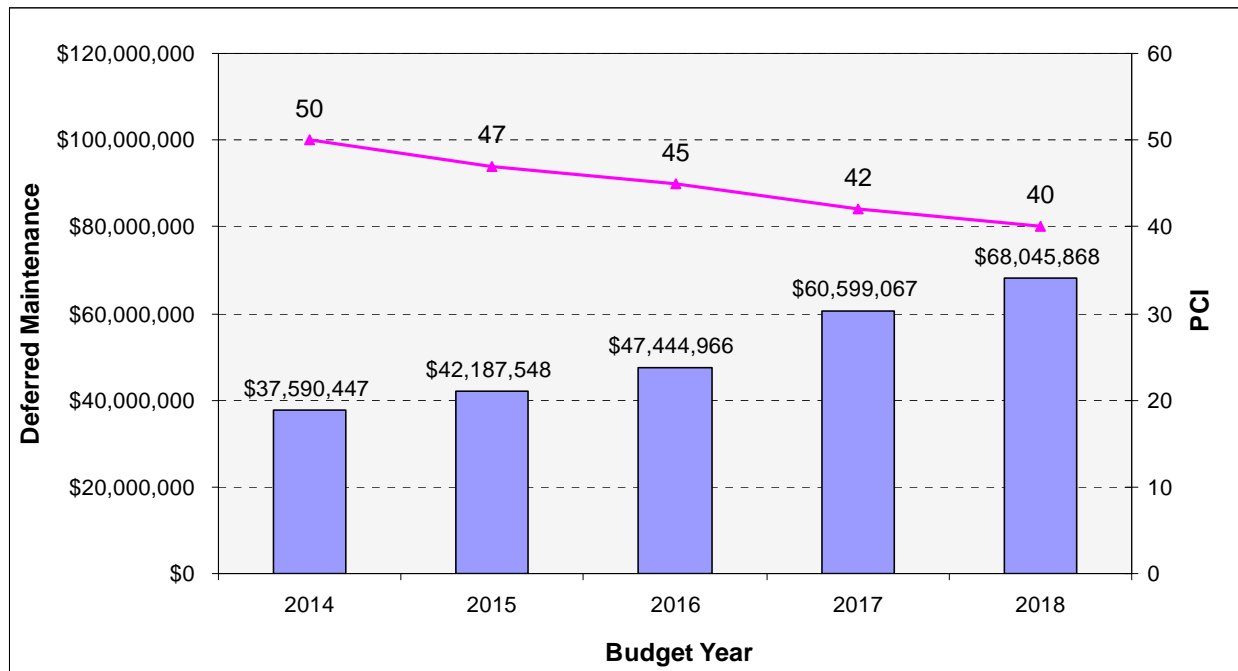


Figure 10. Deferred Maintenance & PCI after Treatment – Scenario 5

Scenario Comparison

Figures 11 and 12 graphically illustrate the comparison of the five scenarios in terms of PCI and deferred maintenance. Figure 11 shows the comparison of the change of PCI over time using different budget scenarios. As shown, Scenario 1 (Unconstrained) will ultimately reach a PCI of 86, while Scenario 5 (Do Nothing) will decrease to a PCI of 40 after five years. Under Scenario 2 (Current Investment Level), the PCI will decrease to around 44 in year 2019, which indicates that current investment level will not be enough to prevent the deterioration of the pavement condition across the network. Figure 12 illustrates the change in deferred maintenance over time for each scenario. As expected, Scenario 1 (Unconstrained) will completely eliminate the deferred maintenance, while the amount of deferred maintenance will continuously increase and reach \$68 million in 2019 if no monies are spent on maintenance and rehabilitation.

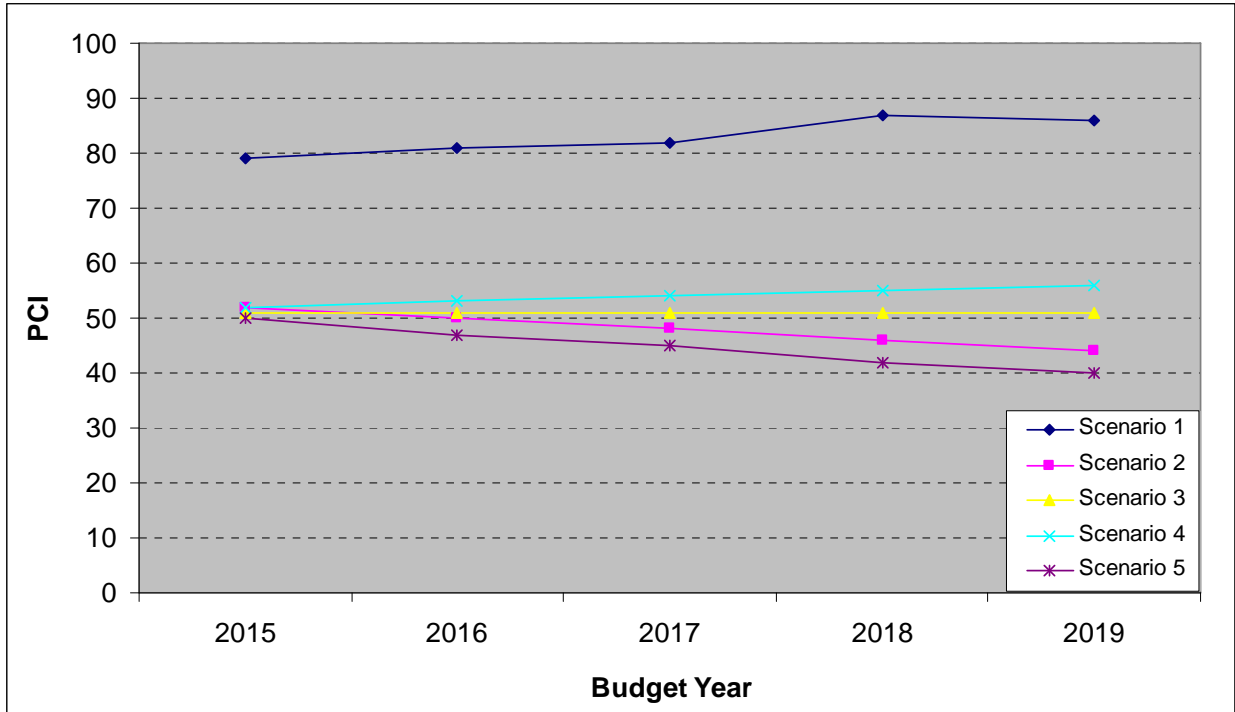


Figure 11. Comparison of PCI over Time under Different Budget Scenario

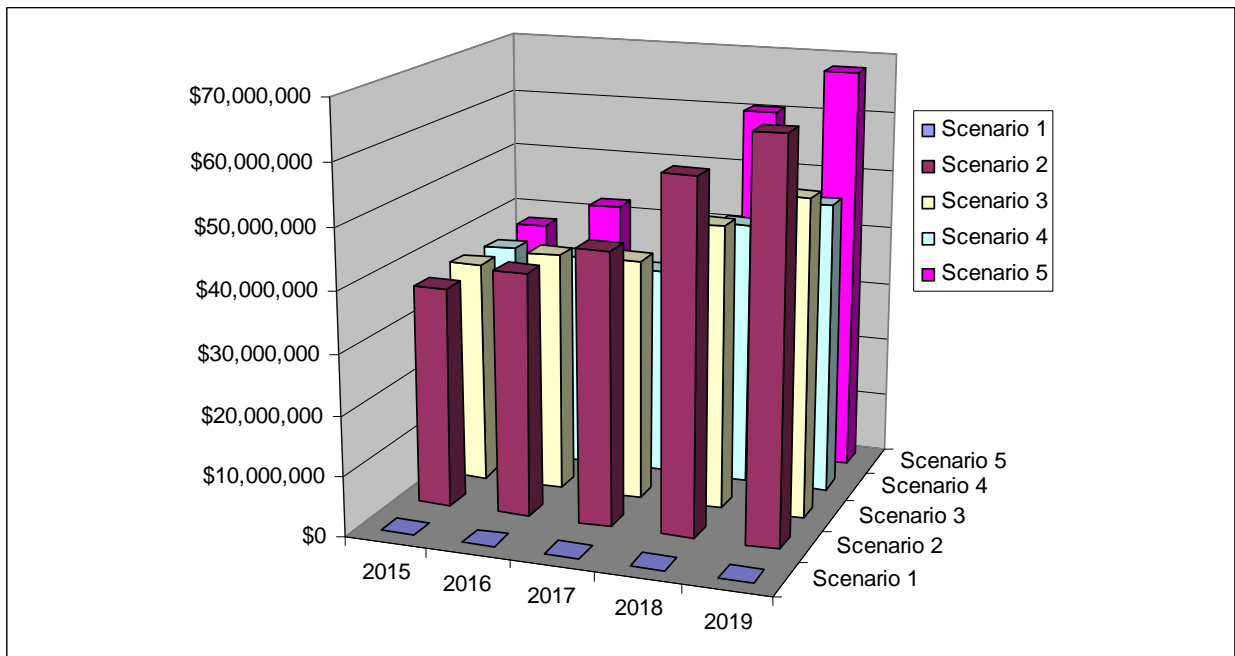


Figure 12. Comparison of Deferred Maintenance over Time under Different Budget Scenario

DISCUSSION AND RECOMMENDATIONS

Of the various maintenance and funding options considered, the *ideal* strategy for the City of Martinez is presented in Scenario 1, with a five-year expenditure total of \$69.5 million. Not only does this budget plan improve the network PCI to an optimal level of 86, it also eliminates the

entire deferred maintenance backlog in the first year. However, the amount of funds required in the first year, approximately \$37.6 million, make this strategy unrealistic for the City of Martinez.

Under the current annual budget of \$1 million, the network PCI is anticipated to decrease to about 44 over the next five years, indicating the current investment level has almost no impact on preventing the deterioration of the current pavement condition. The percentage of the street network falling in the ‘Very Poor’ category will increase from 22% in 2015 to 41.9% in 2019, and the maintenance backlog will increase from \$36.6 million to \$65.5 million. The City’s current funding level is clearly insufficient to maintain the whole of the street network in ‘Good’ condition.

It is important to utilize the information in this report to find a scenario that best fits the City’s current financial climate, while making best use of the allowable funds to maintain the streets that are in good or better condition. Nearly 50% of the residential streets are currently falling in the ‘Poor’ to ‘Very Poor’ condition and without major capital funding, this situation will not improve. The most likely scenario is that the residential streets in this category will need to be ignored, until they reach a true failure status, at which time a low cost reconstruction treatment such as full depth reclamation or recycling is considered. Meanwhile, the available maintenance funds should be utilized primarily on the arterial and collector streets.

In addition to performing cyclic pavement condition inspections, unit cost information for the applications of various maintenance and rehabilitation treatments should be updated annually in the PMP ‘Decision Tree Module.’ If this data is not kept current, the City runs the risk of understating actual funding requirements to adequately maintain the street network.

The City has been using the PMP and appears to have maintained the overall condition of the street network in the “Good” category, although, unless these annual funds are increased to \$4 million or more, the overall street condition will continue a rapid deterioration. With additional funding, the backlog would be reduced and additional preventive maintenance treatments could be applied, which over time will enhance the overall network. The report provided in Section 6 was generated from the StreetSaver® software identifying recommended treatments for the next five years. This report was generated by the software and has not been reviewed for constructability efficiencies. To improve the condition of the street system and reduce the maintenance backlog, the City should continue to seek to increase funding for street maintenance.