BLANDFORD PAVEMENT MANAGEMENT REPORT

Evaluation and Forecast of Pavement Conditions and Maintenance Requirements

November 2020

Prepared by the
Pioneer Valley Planning Commission
in cooperation with the
Town of Blandford Highway Department

Catalyst for Regional Progress
PVPC

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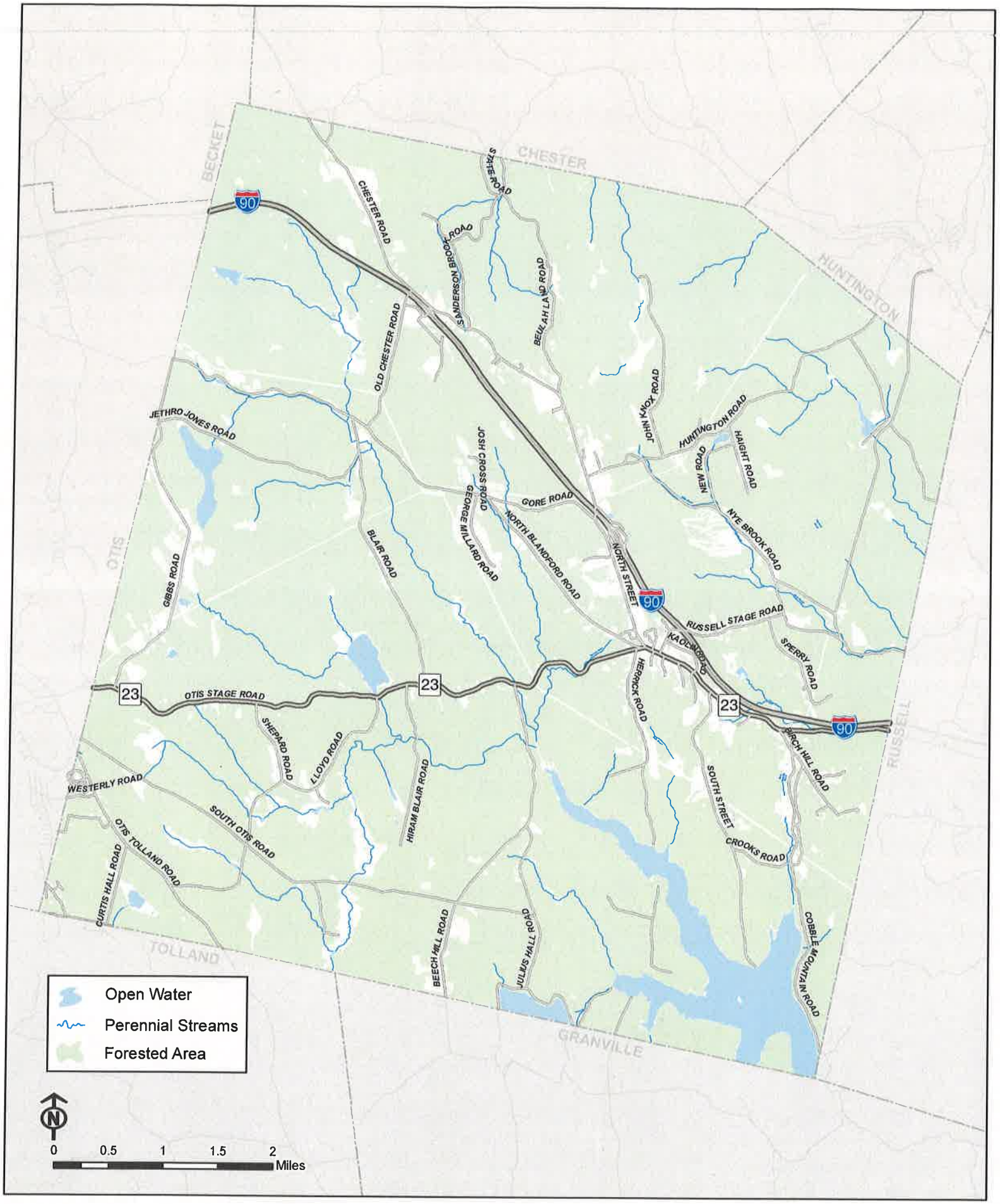


Town of Blandford, MA

I. Introduction

During the past several years a number of political, social, and economic trends have influenced the form and substance of local highway maintenance practices. Significant among them is the increasing pressure of fiscal austerity on local resources, specifically constraints on local tax revenues, which make it difficult for the local highway superintendent or engineer to adequately meet the maintenance needs of roads in the community.

The Pioneer Valley Planning Commission (PVPC) in its effort to promote pavement management among its member communities conducts road condition, budget, and plan analyses to aid in the effective allocation of tax dollars to road maintenance needs. To do this, the PVPC has selected the prepackaged Pavement Management software program "The PAVEMENT*View*" developed by Cartegraph Systems. The PAVEMENT*View* can be customized to apply pavement management techniques to each municipality's specific roadway needs and priorities. A documented guideline of project priority, cost and scheduling is produced in a systematic and coordinated manner for our participating communities such as Blandford.

The PAVEMENT*View* assesses the present pavement conditions and forecasts them annually based on a family of historically derived roadway deterioration curves. Through the application of improvement funds, various budget scenarios can be compared to identify the condition levels associated with an improving, stabilizing or deteriorating roadway condition performance. This report summarizes the findings of Blandford's present roadway condition survey and examines the implications of two investment scenarios.

The goal of the PVPC Pavement Management program is to provide Blandford with the knowledge and ability to administer effectively the limited amount of available roadway improvement funds. The knowledge of cost effective pavement management is based on research formulated by the lifetime performance of typical roadway segments and the application of maintenance at various stages of pavement life. The ability to readily apply this knowledge to all system roadway segments is packaged within the pavement management software program. The PVPC's use of this program emphasizes focusing on improving the overall roadway system condition through the intelligent application of maintenance dollars.

The first step toward the goal of preserving the integrity of the Town of Blandford's roadway system while conserving fiscal resources to the maximum possible extent is to prepare and publish a pavement management program. Continuing cooperative efforts of the town, the Massachusetts Department of Transportation, and PVPC are necessary to assure that data and forecasts are periodically updated and that maintenance and improvement decisions are based on accurate information.

II. Methodology

The PVPC has undertaken the development of a system for managing highway pavement of all Federal-Aid highways in the Pioneer Valley region which started in the summer of 1995. The Federal-Aid highway system consists of any roadway that is not functionally classified as local or rural minor collector.

The PVPC staff collected pavement inventory and distress data for all the federal-aid eligible roadways and local roadways in Blandford in the summer of 2020. All data were merged by PVPC staff and applied to the pavement management software package, the PAVEMENT*View*.

The PAVEMENT*View* uses a Road Condition Index (RCI) as a measurement of roadway serviceability and as a method to establish performance criteria. RCI is derived from controlled measurements of conditions, including: pavement surface, rideability, drainage, safety, utility, traffic control, sidewalk, and roadside maintenance. These individual condition indices are based on inputs supplied to the PAVEMENT*View* from the roadway survey. In analyzing the Blandford roadway system, pavement surface condition was considered to be of most importance; therefore greater significance was assigned to the Overall Condition Index (OCI).

An OCI is generated for each inventoried roadway segment in Blandford using the distress data collected PVPC staff. Deduct values assigned to each type of distress based on severity and extent were applied to generate an OCI for each roadway segment. OCI is measured from 0 to 100, with 100 being an excellent or perfect condition and zero being very poor or impassable condition. The OCI values generated are grouped into OCI category ranges which are defined by the user depending on the type and functional class of each segment. PVPC staff consulted with the local highway department in order to learn about the repair types that the town regularly performs and the associated unit costs of each repair type.

The PVPC incorporated 6 default repair categories:
1. Reconstruction of Collectors and Arterials
1.a Reconstruction of Locals
2. Rehabilitation
3. Preventive maintenance
4. Routine maintenance
5. No action

Reconstruction involves the complete removal and replacement of a failed pavement section which includes reclamation. For the most part, the cost per square yard differs for local roads as opposed to collectors and arterials. The rehabilitation of pavements includes the work necessary to restore the pavement to a condition that will allow it to perform satisfactorily for several years. Preventative maintenance activities are those which are performed at planned intervals to protect and seal the pavement. Routine maintenance activities are those which are taken to correct a specific pavement failure or area distress. A

more detailed description of these repair types can be found in the Glossary of Terms section of this report. A list of repair strategies was developed based on the OCI ranges and road characteristics such as the base, functional class, pavement type, curb reveal, drain index, and utility index. The repair strategies simulate decisions which are consistent with Blandford Highway Department repair practice and procedures. The PAVEMENT*View* uses the repair strategies to assign a repair type to each roadway segment. Detailed and summary reports are produced by the PAVEMENT*View* and can be sorted by street name, OCI, or Network Priority Ranking (NPR) also known as benefit/cost ratio. These reports provide the most recent survey condition information collected on the segments as well as the required repair types and associated costs. The budgeting process of the PAVEMENT*View* calculates the amount of funds needed to achieve desired roadway condition ratings for the present year. In this process, a percentage of roadways at or below a given condition index range is entered into the computer. The PAVEMENT*View* then prepares an asphalt budget report that provides the number of miles of roadway to improve by repair type and the required budget by repair type.

In the planning process, the PAVEMENT*View* applies the present and future assigned budget to needed system repairs based on the highest project NPR. This plan can be assigned for multiple years into the future. For each plan year, the PAVEMENT*View* prepares a future roadway condition projection, exhausts the assigned budget, and then produces reports on the end-of-year average OCI and miles of roadway for each OCI range. The PAVEMENT*View* also allows the user to enter an inflation rate to account for estimated future costs.

III. Existing Condition Evaluation

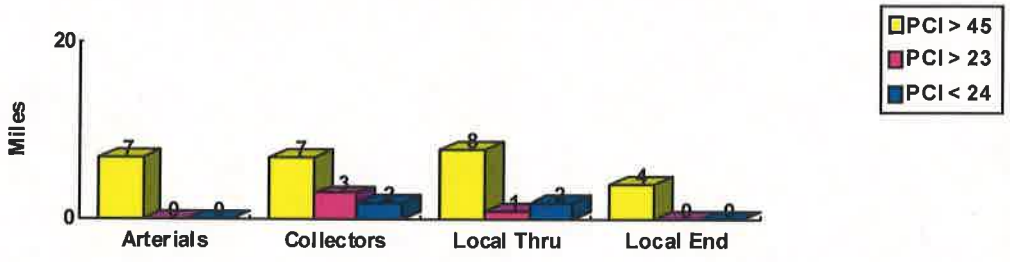
The PVPC staff surveyed 34 miles of improved roadways which constitute 43 roadway segments. The average OCI for the middle of 2020 was rated at 80, which indicates that majority of the roadways are in what is considered by Cartegraph to be a good condition. The surveyed roadway segments are broken down as follows: 33% of the roadways are rated excellent, 38% are good, 4% are fair, 14% are poor and 11% are rated as failed. The PAVEMENT*View* uses these thresholds to categorize roadway conditions based on the OCI. The PVPC surveyed 7 miles of arterial 13 miles of collector roads, 10 miles of residential through (local) roads and 4 miles of dead end (local) roads. The percentages are 20, 38, 31 and 11, respectively. Table 1 summarizes the OCI ranges by roadway classification.

Table 1
OCI Range by Roadway Classification

	Excellent	Good	Fair	Poor	Failed
Arterial	>89.5	>69.5 and =<89.5	>48.5 and =<69.5	>26.5 and =<48.5	<=26.5
Collector	>88.5	>68.5 and =<88.5	>47.5 and =<68.5	>24.5 and =<47.5	<=24.5
Residential Through	>87.5	>67.5 and =<87.5	>46.5 and =<67.5	>23.5 and =<46.5	<=23.5
Residential Dead End	>84.5	>64.5 and =<84.5	>43.5 and =<64.5	>20.5 and =<43.5	<=20.5

The following figure summarizes the existing roadway conditions for each roadway classification.

Figure 1
Roadway Conditions at Middle of Year 2020



Based on 2020 Survey information.

Table 2 lists Blandford's top three roadway segments which were considered to be at the top of their performance ability in 2020. Table 3 lists the roadways which received the lowest OCI ratings.

Table 2
OCI Listing of the Top Rated Roadway Segments

Street Name	From	To	Functional Class	Length (ft.)	OCI
Birch Hill Road	Beagle Club Road	Dead End	Local End	3090	100
South Street	Blandford Turnpike	Crooks Road	Local Thru	8335	100
Glasgow Road	Blandford Turnpike	Dead End	Local End	1000	100

Based on data collected in the middle of the year 2020.

Table 3
OCI Listing of the Worst Roadway Segments

Street Name	From	To	Functional Class	Length (ft.)	OCI
Watson Park Road.	Blandford Turnpike	Watson Park Rd.	Local Thru	2437	5
Old Chester Road	Chester Road	Turnpike Shop Driveway	Local Thru	798	16
Cobble Mountain Rd	Birch Hill Road	Crooks Road	Local Thru	5280	19

Based on data collected in the middle of the year 2020.

The budgeting process of the PAVEMENT*View* can be used to calculate the backlog of repair work for the town by assigning 100% of town roadway segments within the best OCI range. The backlog is defined as the cost of bringing all roads up to a near perfect condition within one year.

The backlog represents how far behind the roadway network is in terms of its present physical condition and measures the cost of performing all desirable repairs to achieve the best OCI range. In the middle of the year 2020 the backlog repair work for the Town of Blandford was $4,834,695. This cost estimate is useful in identifying the pavement condition of the system and in comparing to future and/or past year's backlogs.

After the backlog of improvement needs have been determined, the recommended maintenance actions for roadway segments are ranked by priority. The priority of segment improvement is determined based on its calculated Network Priority Rankning (NPR). NPR is a function of vehicle volume, roadway length, estimated life of repair, improvement cost, and OCI, and it is a measurement of the benefit/cost ratio for each segment improvement recommendation. NPR is used to rank local roadway projects based on a priority scale. The projects with a higher NPR are assigned a higher priority and projects with a lower NPR are assigned a lower priority. The higher the NPR, the higher the project priority. The roadway segments with the same NPR are assigned the same priority ranking and segments with no NPR are not assigned a priority ranking.

Table 4 summarizes the town's three three roadway segments in terms of NPR.

Table 4
Network Priority Ranking Listing of the Top Roadway Segments

Street Name	Functional Class	Length (ft.)	OCI	Repair Type	Cost	NPR
North Blandford Rd.	Collector	10606	20	Reconstruction	$1,853,929	75
North Blandford Rd.	Collector	10838	28	Rehabilitation	$757,696	72
North Blandford Rd.	Collector	7012	28	Rehabilitation	$490,217	72

Based on data collected during the middle the year 2020.

Based on the NPR calculations, the projects listed in Table 4 would benefit the most users (vehicle volumes) for the longest time period per dollar spent. As seen, all of the segments listed in Table 4 are classified as collector roadways and service significant traffic. In the application of good pavement management practice, the program user should not simply administer funds based on NPR list alone; a plan should be developed taking into account the availability of funding from state and federal sources, the repair type and cost before budgeting improvement funds.

IV. Budget/Planning Process

The budgeting process determines the required budget for each type of repair based on the available information supplied regarding the overall condition level desired on the roadway network. The planning process determines the most beneficial plan of improvement based on the amount of money available to spend for each repair type. Pavement management utilizes both these processes in developing an effective program.

A regressive maintenance program occurs when insufficient funds or no funds are invested in road repairs, resulting in a backlog of repairs which increases over time. An equilibrium maintenance program is where just enough money is spent each year to keep the OCI level and the backlog stable. A progressive program occurs when the application of improvement funds results in a reduction of the backlog over time. The first two scenarios were examined over a five year horizon to measure cost versus operating conditions.

Anticipated Budget

The anticipated budget for roadway improvements was provided by the Blandford Highway Department (BHD). Historically, the BHD receives approximately $200,000 in Chapter 90 and town funds to repair and reconstruct town roadways. This funding level was applied to the roadway segments based on an NPR appropriation using the PAVEMENT*View* program. Review of the network-wide OCI level for the town identifies that this level of investment represents somewhat of a regressive maintenance program which results in an increase in the backlog of repairs over time. In this most typical situation, the budget that a community regularly allocates for roadway maintenance is, for the most part, insufficient to obtain overall future roadway condition performance levels which are equal to or better than the present. Table 5 shows the effects on the average OCI level and annual backlog as a constant budget is applied. This decline in the average OCI level is the result of the improvement rate being offset by the roadway deterioration rate. Also, the amount of needed repairs (backlog) increases as the average OCI declines.

Table 5
Plan Summary of an Anticipated Budget

Year	Funding	OCI level	Backlog
2020	--	80	$4,834,695
2021	$200,000	76	$4,635,564
2022	$200,000	77	$4,643,986
2023	$200,000	76	$7,178,146
2024	$200,000	76	$7,713,563
2025	$200,000	74	$8,061,877

OCI levels represent end of year value.

Budget to Maintain Average Present OCI Level

This scenario represents an equilibrium maintenance program which results in a constant average OCI level. In this situation, the present OCI level is maintained by investing sufficient funds which will offset the deterioration experienced by the roadway system. The equilibrium or "as is" scenario preserves the roadway investment until a progressive condition can be accomplished.

In the case of Blandford, the existing average OCI level is considered somewhat acceptable. To achieve this level requires maintaining the average condition at an high level. This requires the application of improvement funds to be directed towards the most cost effective repairs. The cost effective repairs generally improve and /or maintain the segments which are salvageable and delay action on the segments which require reconstruction or major rehabilitation and whose condition can not deteriorate much further. Once the salvageable segments are in a stable condition, attention can be paid to the other more seriously deteriorated segments.

Table 6 shows a budget scenario attempting to maintain an average OCI level approximately consistent with the present conditions. In cases where a substantial increase in funding was required to maintain the present average PCI level, the average PCI level was allowed to vary somewhat to minimize excessive and unrealistic appropriation of improvement funds.

Table 6
Plan Summary of a Maintain Average OCI Level

Year	Funding	OCI level	Backlog
2020	--	80	$4,834,695
2021	$250,000	77	$4,585,815
2022	$250,000	80	$4,542,109
2023	$250,000	80	$6,629,938
2024	$250,000	80	$6,837,401
2025	$250,000	79	$7,135,022

OCI levels represent end of year value.

V. Summary

The role of pavement management in Blandford is to provide a way to improve road conditions in the most cost-effective manner. Blandford officials will benefit from understanding the relationship between the roadway maintenance budget and future roadway conditions. Also, the BHD will be able to provide objective information on road conditions and make cost-effective decisions on maintenance priorities and schedules. The improvement plan is a forecasting tool that the town can use to compute required budget levels to achieve desired roadway condition ratings.

The initial phase of pavement management is to look at the entire roadway network as opposed to a project by project approach. To determine the best way to improve the overall condition level is the primary goal, not to fix the roads that need the most repairs. It requires far more money to stabilize the overall condition of a road network when even a small portion of the roads reach a condition of major investment (reconstruction or rehabilitation) than to attend to preventive and routine maintenance in a vigilant manner. Therefore, it is financially advantageous in the long run for the Town to attend to the roads, which are in good to fair condition and can be prevented from deteriorating to a point where higher maintenance efforts are needed. Once this is done, the roads in poor condition can be addressed over time, and the backlog can be reduced.

It is important for the town to realize the effects of deferring timely road repairs. As the backlog of repairs increases, so does the required equilibrium budget. An effective pavement management program provides the community with an indication of the extent to which it needs to catch up in the repair of roads and how much this added effort will cost. As discussed in the Anticipated Budget section of this report, the budget that Blandford regularly allocates for roadway maintenance is still somewhat insufficient to obtain overall future roadway condition performance levels which are equal to or better than the present.

Table 7 provides a summary of the budget scenarios conducted for the Town of Blandford to identify the result of the funding programs. As seen, the timing and amount of funding impacts the performance condition as well as the end of year backlog amount. There would be a decrease in the backlog of repairs and an increase in the average OCI at the end of the fifth year if the Budget to Maintain Present Average OCI Level is adopted. This shows that in the short run, this budget scenario can be applied to the most cost effective repair types to maximize the average OCI. However, the Town must keep up with the distress survey update efforts so that in the latter years of the plan scenarios, the average OCI remains at or above the existing figure.

Table 7
Budget Scenario Summary

Funding Scenario	5 Year Expenditures	5th Year OCI Value	5th Year Backlog
Anticipated Budget	$1,000,000	74	$8,061,877
Maintain Average OCI	$1,250,000	79	$7,135,022

This pavement management report shows us that it is financially advantageous in the long run for the town to attend to the roads which are in good to fair condition and can be prevented from deteriorating to a point where higher maintenance efforts are needed. Once this is done, the roads in poor condition can be addressed over time, and the backlog can be reduced. The Budget to Maintain Present Average OCI Level improvement scenario discussed in this pavement management report presents a realistic and achievable game plan for applying maintenance funds. The scenario examines a situation where the town's decision makers are able to maximize the average OCI and yet keep not that far from the annual budget. This OCI maximization is achieved by applying improvement funds to cost effective repairs in order to improve the overall condition level. The ability to construct various budget and scheduling scenarios allows the local official to forecast the needs and conditions of the roadway system. This insight also provides the advantage of "stretching" funds allocated to one of the municipality's greatest investments, the roadway network.

VI. Glossary of Terms

Base Index (BI): An index derived from controlled measurements and evaluations of the pavement condition survey distresses which can be attributable to the asphalt mixture and materials such as surface wear/raveling, corrugations, shoving slippage, bleeding, and polished aggregate. It is a rating established as an indicator of asphalt materials quality and performance on a scale from 0 to 100, with 100 being excellent.

Network Priority Ranking (NPR): The NPR is computed by the PAVEMENT*View* at the time it determines a recommended repair for a road section that is the most beneficial. The NPR is derived from the following formula:

$$NPR = \frac{365*ADT*\text{Road Section Length}*\text{Estimated Life of Repair}}{\text{Current Cost}*\text{Condition Index}}$$

Where NPR is the network priority ranking, ADT is average daily traffic, and Condition Index is the condition index for the road section for the type of work being done (OCI, DCI, UCI).

Deduct Values: Deduct values represent the penalty assessed for each identified distress and is used in the calculation of the Pavement Condition Index. Each distress has multiple severity and extent levels, with a specific deduct value at each level. Deduct values may be modified for all nine pavement distress types. The deduct value is ultimately subtracted from a perfect pavement condition of 100.

Drainage Condition Index (DCI): An index derived from controlled measurements and evaluations of pavement surface drainage deficiencies and conditions. It is a serviceability rating established for determining the present status or performance of the drainage features on a scale from 0 to 100, with 100 being excellent.

Functional Classification: Road functional classification attempts to place all streets and roads in the network into one of the three general categories, arterial, collector, and local streets, according to vehicle volume. The categories are based on geometric and traffic characteristics of each street type.

Maintenance: Anything done to the pavement after original construction until complete reconstruction, excluding shoulders and bridges.

Overall Condition Index (OCI): An index derived from established measurements of pavement surface condition distress or deficiencies. It is a serviceability rating established under controlled conditions having a scale from 0 to 100, with 100 being excellent.

Pavement Management (PM): Pavement Management is the effective and efficient directing of the various activities involved in providing and sustaining pavements in a condition acceptable to the traveling public at the lowest life-cycle cost.

Pavement Management System (PMS): An established, documented procedure treating many or all of the Pavement Management activities in a systematic and coordinated manner. It consists of five essential elements structured to serve decision-making responsibilities at various management levels.

1. Pavement surveys related to condition and serviceability.
2. Database containing all pavement-related information.
3. Analysis scheme.
4. Decision criteria.
5. Implementation procedures.

Pavement Performance: The assessment of how well the pavement serves the user over time. The engineer often associates pavement condition with an arbitrary, but quantifiable, value relating to pavement roughness, pavement distress, or pavement strength. Performance is the measured change of condition and/or serviceability over increments of time.

Pavement Types: Road Manager assigns three standard pavement types, bituminous concrete, surface treated, and composite, to the streets and roads. Pavement Types serve to inform pavement engineers of the operating condition of the street and provides a meaningful communication tool when engineering judgment is required to select possible rehabilitation alternatives.

Preventative Maintenance: Preventative maintenance activities are those which are performed at planned intervals to protect and seal the pavement. Seals are designed to provide one or more of the following benefits:

1. prevent the intrusion of air and moisture.
2. Fill small cracks and voids.
3. Rejuvenate an oxidized binder.
4. Provide a new wearing surface.

Reconstruction: Reconstruction is the complete removal and replacement of a failed pavement and might also involve features other than just pavement such as widening, realignment, traffic control devices, safety hardware, and major base and drainage work.

Rehabilitation: The rehabilitation of pavements includes the work necessary to restore the pavement to a condition that will allow it to perform satisfactorily for several years. Rehabilitation also includes the work necessary to prepare the pavement for an overlay. The major activities involved in the rehabilitation process are:

1. Partial depth patching.
2. Full depth patching.
3. Joint and crack sealing.
4. Grouting and undersealing (filling voids).
5. Grinding and milling (removal of high spots in the pavement).
6. Overlays.

Repair Strategies: The Road Manager represents repair strategies in a table of user defined *if, then* statements. The recommended repairs are based on seven decision factors: PCI range, Base Index, Surface Index, Functional Classification, Surface Type, Utility Index, and Drainage Index. These input conditions to the repair strategy table represent the various conditions for each decision factor.

Repair Types: Various choices of treatment available for providing a solution to a pavement deficiency or problem. The associated repair type cost is based on a locality's past experience.

Rideability: A measure of the smoothness of a pavement (traveled surface) as perceived by the public traveling in a vehicle at a speed appropriate for the particular surface.

Routine Maintenance: Routine maintenance activities are those which are taken to correct a specific pavement failure or area distress. Routine maintenance usually addresses localized pavement defects and includes activities such as:

1. Patching.
2. Skin patching.
3. Crack sealing.

Thresholds: The thresholds define various condition index ranges used in the determination of recommended repairs. These thresholds identify PCI ranges from 1 to 5, with 5 representing optimal conditions.

Utility Condition Index (UCI): An index derived from controlled measurements and evaluations of utility patches and utility iron conditions in the pavement surface area. It is a serviceability rating established for determining the present status or performance of the utility features on a scale from 0 to 100, with 100 being excellent.

APPENDIX A

Repair Types

Repair Types

Alternative Code	Alternative Description	Unit Cost	Inflation Rate (%)	Unit of measure	Expected Life
1	Reconstruction	$45.00	4.5	Sq. Yard	10
1a	Reconstruction Local	$30.00	4.5	Sq. Yard	10
2	Rehabilitation	$18.00	4.5	Sq. Yard	8
3	Preventative Maintenance	$8.50	4.5	Sq. Yard	8
4	Routine Maintenance	$0.75	4.5	Sq. Yard	4
5	No Immediate Maintenance	$0.00	4.5	Sq. Yard	1

APPENDIX B

Existing Conditions

Roadway Listing by Street Name
Roadway Listing by OCI Listing
Roadway Listing by Network Priority Ranking and Recommended Repair Activity
Backlog of Repairs by Recommended Repair Activity

Roadway Listing by Street Name

Route	From	To	Length	Width	OCI
33 BEECH HILL ROAD	GRANVILLE TOWN LINE	2.35 MILES (GATE 22 FOREST)	12434 ft	18 ft	77
33 BEECH HILL ROAD	2.35 MILES (GATE 22 FOREST)	OTIS STAGE ROAD	4348 ft	18 ft	77
33 BIRCH HILL ROAD	BLANDFORD TURNPIKE	COBBLE MOUNTAIN ROAD	1056 ft	17 ft	100
33 BIRCH HILL ROAD	COBBLE MOUNTAIN ROAD	HAYDEN ROAD	783 ft	17 ft	100
33 BIRCH HILL ROAD	HAYDEN ROAD	BEAGLE CLUB ROAD	1046 ft	16 ft	100
33 BIRCH HILL ROAD	BEAGLE CLUB ROAD	DEAD END	3090 ft	14 ft	100
33 BLANDFORD TURNPIKE	NORTH STREET	KAOILIN ROAD	2629 ft	24 ft	95
33 BLANDFORD TURNPIKE	KAOILIN ROAD	SOUTH STREET	1274 ft	24 ft	97
33 BLANDFORD TURNPIKE	SOUTH STREET	RUSSELL T.L.	9246 ft	24 ft	87
33 CHESTER ROAD	CHESTER T.L.	1.3 MILES	6864 ft	24 ft	100
33 CHESTER ROAD	1.3 MILES	SANDERSON BROOK ROAD	5808 ft	22 ft	100
33 CHESTER ROAD	SANDERSON BROOK ROAD	HUNTINGTON ROAD	10032 ft	22 ft	84
33 COBBLE MOUNTAIN ROAD	BLANDFORD TURNPIKE	BIRCH HILL ROAD	1333 ft	22 ft	100
33 COBBLE MOUNTAIN ROAD	BIRCH HILL ROAD	CROOKS ROAD	5280 ft	22 ft	19
33 CROOKS ROAD	COBBLE MOUNTAIN ROAD	SOUTH STREET	3086 ft	20 ft	100
33 CURTIS HALL ROAD	OTIS TOLLAND ROAD	MOREAU ROAD	3948 ft	20 ft	82
33 GLASGOW ROAD	BLANDFORD TURNPIKE	DEAD END	1000 ft	18 ft	100
33 GORE ROAD	NORTH STREET	459 FEET	459 ft	20 ft	84
33 GORE ROAD	459 FEET	NORTH BLANDFORD ROAD	5670 ft	20 ft	67
33 H B SPERRY ROAD	RUSSELL ROAD	DEAD END	4752 ft	20 ft	84
33 HAYDEN ROAD	HAYDEN ROAD	COBBLE MOUNTAIN ROAD	307 ft	22 ft	100
33 HERRICK ROAD	OTIS STAGE ROAD	DEAD END	5210 ft	18 ft	95
33 HUNTINGTON ROAD	CHESTER ROAD	TRANSFER STATION	1848 ft	20 ft	100
33 KAOLIN ROAD	BLANDFORD TURNPIKE	RUSSELL ROAD	2443 ft	25 ft	100
33 LLOYD ROAD	SHEPARD ROAD	.3 MILES	1584 ft	12 ft	64
33 MOREAU ROAD	CURTIS HALL	BROOKMAN DRIVE	2046 ft	20 ft	77
33 NORTH BLANDFORD ROAD	OTIS TOWN LINE	OLD CHESTER ROAD	10606 ft	20 ft	20
33 NORTH BLANDFORD ROAD	OLD CHESTER ROAD	JJ CROSS ROAD	7012 ft	20 ft	28
33 NORTH BLANDFORD ROAD	JJ CROSS	OTIS STAGE ROAD	10838 ft	20 ft	28

33 NYE BROOK ROAD	RUSSELL ROAD	.9 MILES	4732 ft	18 ft	41
33 NYE BROOK ROAD	.9 MILES	TO DIRT (BLOCKED)	2112 ft	18 ft	44
33 OLD CHESTER ROAD	CHESTER ROAD	TURNPIKE SHOP DRIVEWAY	798 ft	26 ft	16
33 OLD CHESTER ROAD	CHESTER ROAD	NORTH BLANDFORD ROAD	6314 ft	12 ft	100
33 OTIS TOLLAND ROAD	CURTIS HALL ROAD	TOLLAND TOWN LINE	5104 ft	20 ft	83
33 RUSSELL ROAD	BLANDFORD TURNPIKE	HOUSE 17	2006 ft	30 ft	100
33 RUSSELL ROAD	HOUSE 17	RUSSELL T.L.	11616 ft	25 ft	83
33 SHEPARD ROAD	SOUTH OTIS ROAD	.72 MILES	3832 ft	16 ft	84
33 SOUTH STREET	BLANDFRD TURNPIKE	CROOKS ROAD	8335 ft	22 ft	100
33 SUNSET ROAD	BLANDFORD TURNPIKE	DEAD END	1161 ft	10 ft	100
33 UNNAMED ROAD	OLD CHESTER ROAD	DEAD END	1194 ft	20 ft	100
33 UNNAMED ROAD	NORTH STREET	DEAD END	1842 ft	24 ft	100
33 WATSON PARK ROAD	BLANDFORD TURNPIKE	WATSON PARK ROAD	2437 ft	12 ft	5
33 WYMAN ROAD	BLANDFORD TURNPIKE	DEAD END	711 ft	16 ft	100
Totals				**178226 ft**	**80**

Roadway Listing by OCI

Route	From	To	Length	Width	OCI
33 BIRCH HILL ROAD	BLANDFORD TURNPIKE	COBBLE MOUNTAIN ROAD	1056 ft	17 ft	100
33 BIRCH HILL ROAD	COBBLE MOUNTAIN ROAD	HAYDEN ROAD	783 ft	17 ft	100
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33 GLASGOW ROAD	BLANDFORD TURNPIKE	DEAD END	1000 ft	18 ft	100
33 HAYDEN ROAD	HAYDEN ROAD	COBBLE MOUNTAIN ROAD	307 ft	22 ft	100
33 HUNTINGTON ROAD	CHESTER ROAD	TRANSFER STATION	1848 ft	20 ft	100
33 KAOLIN ROAD	BLANDFORD TURNPIKE	RUSSELL ROAD	2443 ft	25 ft	100
33 OLD CHESTER ROAD	CHESTER ROAD	NORTH BLANDFORD ROAD	6314 ft	12 ft	100
33 PARK KNOX	HUNTINGTON ROAD	DEAD END	1161 ft	24 ft	100
33 RUSSELL ROAD	BLANDFORD TURNPIKE	HOUSE 17	2006 ft	30 ft	100
33 SOUTH STREET	BLANDFRD TURNPIKE	CROOKS ROAD	8335 ft	22 ft	100
33 SUNSET ROAD	BLANDFORD TURNPIKE	DEAD END	1161 ft	10 ft	100
33 UNNAMED ROAD	OLD CHESTER ROAD	DEAD END	1194 ft	20 ft	100
33 UNNAMED ROAD	NORTH STREET	DEAD END	1842 ft	24 ft	100
33 WYMAN ROAD	BLANDFORD TURNPIKE	DEAD END	711 ft	16 ft	100
33 BLANDFORD TURNPIKE	KAOILIN ROAD	SOUTH STREET	1274 ft	24 ft	97
33 BLANDFORD TURNPIKE	NORTH STREET	KAOILIN ROAD	2629 ft	24 ft	95
33 HERRICK ROAD	OTIS STAGE ROAD	DEAD END	5210 ft	18 ft	95
33 BLANDFORD TURNPIKE	SOUTH STREET	RUSSELL T.L.	9246 ft	24 ft	87
33 CHESTER ROAD	SANDERSON BROOK ROAD	HUNTINGTON ROAD	10032 ft	22 ft	84
33 GORE ROAD	NORTH STREET	459 FEET	459 ft	20 ft	84
33 H B SPERRY ROAD	RUSSELL ROAD	DEAD END	4752 ft	20 ft	84
33 SHEPARD ROAD	SOUTH OTIS ROAD	.72 MILES	3832 ft	16 ft	84
33 OTIS TOLLAND ROAD	CURTIS HALL ROAD	TOLLAND TOWN LINE	5104 ft	20 ft	83

33 CURTIS HALL ROAD	OTIS TOLLAND ROAD	MOREAU ROAD	3948 ft	20 ft	82
33 BEECH HILL ROAD	GRANVILLE TOWN LINE	2.35 MILES (GATE 22 FOREST)	12434 ft	18 ft	77
33 BEECH HILL ROAD	2.35 MILES (GATE 22 FOREST)	OTIS STAGE ROAD	4348 ft	18 ft	77
33 MOREAU ROAD	CURTIS HALL	BROOKMAN DRIVE	2046 ft	20 ft	77
33 GORE ROAD	459 FEET	NORTH BLANDFORD ROAD	5670 ft	20 ft	67
33 LLOYD ROAD	SHEPARD ROAD	.3 MILES	1584 ft	12 ft	64
33 NYE BROOK ROAD	.9 MILES	TO DIRT (BLOCKED)	2112 ft	18 ft	44
33 NYE BROOK ROAD	RUSSELL ROAD	.9 MILES	4732 ft	18 ft	41
33 NORTH BLANDFORD ROAD	OLD CHESTER ROAD	JJ CROSS ROAD	7012 ft	20 ft	28
33 NORTH BLANDFORD ROAD	JJ CROSS	OTIS STAGE ROAD	10838 ft	20 ft	28
33 NORTH BLANDFORD ROAD	OTIS TOWN LINE	OLD CHESTER ROAD	10606 ft	20 ft	20
33 COBBLE MOUNTAIN ROAD	BIRCH HILL ROAD	CROOKS ROAD	5280 ft	22 ft	19
33 OLD CHESTER ROAD	CHESTER ROAD	TURNPIKE SHOP DRIVEWAY	798 ft	26 ft	16
33 WATSON PARK ROAD	BLANDFORD TURNPIKE	WATSON PARK ROAD	2437 ft	12 ft	5
Totals				**178226 ft**	**80**

Roadway Listing by Network Priority Ranking and Recommended Repair Activity

PVPC Segments Analysis Recommendations by Activity

Scenario Backlog
Description Unlimited funding
Budget PVPC Unlimited

Time Frame 1
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year *1*

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BLANDFORD TURNPIKE	NORTH STREET	KAOILIN ROAD	2629 ft	5RPA - Do Nothing	$0	94.72	57.01
33 BLANDFORD TURNPIKE	KAOILIN ROAD	SOUTH STREET	1274 ft	5RPA - Do Nothing	$0	96.80	56.37
33 CHESTER ROAD	CHESTER T.L.	1.3 MILES	6864 ft	5RPA - Do Nothing	$0	99.86	54.66
33 CHESTER ROAD	1.3 MILES	SANDERSON BROOK ROAD	5808 ft	5RPA - Do Nothing	$0	99.86	54.66
33 RUSSELL ROAD	BLANDFORD TURNPIKE	HOUSE 17	2006 ft	5RPA - Do Nothing	$0	99.93	50.79
33 HUNTINGTON ROAD	CHESTER ROAD	TRANSFER STATION	1848 ft	5RPA - Do Nothing	$0	99.97	38.47
33 BIRCH HILL ROAD	BLANDFORD TURNPIKE	COBBLE MOUNTAIN ROAD	1056 ft	5RPA - Do Nothing	$0	99.98	37.70
33 BIRCH HILL ROAD	COBBLE MOUNTAIN ROAD	HAYDEN ROAD	783 ft	5RPA - Do Nothing	$0	99.98	37.70
33 COBBLE MOUNTAIN ROAD	BLANDFORD TURNPIKE	BIRCH HILL ROAD	1333 ft	5RPA - Do Nothing	$0	99.98	37.70
33 CROOKS ROAD	COBBLE MOUNTAIN ROAD	SOUTH STREET	3086 ft	5RPA - Do Nothing	$0	99.98	37.70
33 HAYDEN ROAD	HAYDEN ROAD	COBBLE MOUNTAIN ROAD	307 ft	5RPA - Do Nothing	$0	99.98	37.70
33 KAOLIN ROAD	BLANDFORD TURNPIKE	RUSSELL ROAD	2443 ft	5RPA - Do Nothing	$0	99.97	37.70
33 OLD CHESTER ROAD	CHESTER ROAD	NORTH BLANDFORD ROAD	6314 ft	5RPA - Do Nothing	$0	99.97	37.70
33 SOUTH STREET	BLANDFRD TURNPIKE	CROOKS ROAD	8335 ft	5RPA - Do Nothing	$0	99.98	37.70
33 BIRCH HILL ROAD	HAYDEN ROAD	BEAGLE CLUB ROAD	1046 ft	5RPA - Do Nothing	$0	100.00	37.69
33 HERRICK ROAD	OTIS STAGE ROAD	DEAD END	5210 ft	5RPA - Do Nothing	$0	94.76	27.77
33 BIRCH HILL ROAD	BEAGLE CLUB ROAD	DEAD END	3090 ft	5RPA - Do Nothing	$0	100.00	26.15
33 GLASGOW ROAD	BLANDFORD TURNPIKE	DEAD END	1000 ft	5RPA - Do Nothing	$0	100.00	26.15
33 SUNSET ROAD	BLANDFORD TURNPIKE	DEAD END	1161 ft	5RPA - Do Nothing	$0	100.00	26.15
33 UNNAMED ROAD	OLD CHESTER ROAD	DEAD END	1194 ft	5RPA - Do Nothing	$0	100.00	26.15
33 UNNAMED ROAD	NORTH STREET	DEAD END	1842 ft	5RPA - Do Nothing	$0	100.00	26.15
33 WYMAN ROAD	BLANDFORD TURNPIKE	DEAD END	711 ft	5RPA - Do Nothing	$0	100.00	26.15
Segment Count 22			**11.2**	miles	**$0**		
33 CHESTER ROAD	SANDERSON BROOK ROAD	HUNTINGTON ROAD	10032 ft	4RPA - Routine Maintenance	$32,125	83.20	59.78
33 BLANDFORD TURNPIKE	SOUTH STREET	RUSSELL T.L.	9246 ft	4RPA - Routine Maintenance	$32,299	86.57	59.52
33 BEECH HILL ROAD	GRANVILLE TOWN LINE	2.35 miles (GATE 22 FOREST)	12434 ft	4RPA - Routine Maintenance	$32,577	76.80	57.14
33 BEECH HILL ROAD	2.35 miles (GATE 22 FOREST)	OTIS STAGE ROAD	4348 ft	4RPA - Routine Maintenance	$11,392	76.80	57.14
33 RUSSELL ROAD	HOUSE 17	RUSSELL T.L.	11616 ft	4RPA - Routine Maintenance	$42,269	82.32	56.21
33 CURTIS HALL ROAD	OTIS TOLLAND ROAD	MOREAU ROAD	3948 ft	4RPA - Routine Maintenance	$11,493	81.40	55.72
33 OTIS TOLLAND ROAD	CURTIS HALL ROAD	TOLLAND TOWN LINE	5104 ft	4RPA - Routine Maintenance	$14,858	82.00	55.54

PVPC Segments Analysis Recommendations by Activity

Scenario Backlog
Description Unlimited funding
Budget PVPC Unlimited
Time Frame 1
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 1

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 MOREAU ROAD	CURTIS HALL	BROOKMAN DRIVE	2046 ft	4RPA - Routine Maintenance	$5,956	76.80	44.83
33 GORE ROAD	NORTH STREET	459 FEET	459 ft	4RPA - Routine Maintenance	$1,336	83.25	42.85
33 SHEPARD ROAD	SOUTH OTIS ROAD	.72 MILES	3832 ft	4RPA - Routine Maintenance	$8,924	83.15	38.26
33 H B SPERRY ROAD	RUSSELL ROAD	DEAD END	4752 ft	4RPA - Routine Maintenance	$13,834	83.43	31.25
Segment Count 11			**12.8**	miles	**$207,064**		
33 LLOYD ROAD	SHEPARD ROAD	.3 MILES	1584 ft	3RPA - Preventive Maintenance	$31,384	63.14	49.03
33 GORE ROAD	459 FEET	NORTH BLANDFORD ROAD	5670 ft	3RPA - Preventive Maintenance	$187,236	66.32	48.06
Segment Count 2			**1.4**	miles	**$218,620**		
33 NORTH BLANDFORD ROAD	OLD CHESTER ROAD	JJ CROSS ROAD	7012 ft	2RPA - Rehabilitation	$490,217	28.06	72.14
33 NORTH BLANDFORD ROAD	JJ CROSS	OTIS STAGE ROAD	10838 ft	2RPA - Rehabilitation	$757,696	28.06	72.14
33 SECOND DIVISION ROAD	RUSSELL ROAD	.9 MILES	4732 ft	2RPA - Rehabilitation	$297,737	39.85	56.20
33 SECOND DIVISION ROAD	.9 MILES	TO DIRT (BLOCKED)	2112 ft	2RPA - Rehabilitation	$132,887	42.88	55.27
Segment Count 4			**4.7**	miles	**$1,678,538**		
33 NORTH BLANDFORD ROAD	OTIS TOWN LINE	OLD CHESTER ROAD	10606 ft	1RPA - Reconstruction	$1,853,929	19.51	74.77
Segment Count 1			**2.0**	miles	**$1,853,929**		
33 WATSON PARK ROAD	BLANDFORD TURNPIKE	WATSON PARK ROAD	2437 ft	1aRPA - Reconstuction	$154,278	4.54	67.06
33 OLD CHESTER ROAD	CHESTER ROAD	TURNPIKE SHOP DRIVEWAY	798 ft	1aRPA - Reconstuction	$109,457	15.86	63.58
33 COBBLE MOUNTAIN ROAD	BIRCH HILL ROAD	CROOKS ROAD	5280 ft	1aRPA - Reconstuction	$612,809	19.26	62.54
Segment Count 3			**1.6**	miles	**$876,544**		
Plan cost for Plan Year 1			**33.8**	miles	**$4,834,695**		
Segment Count 43							
			33.8	miles	**$4,834,695**		

Backlog of Repairs by Recommended Repair Activity

PVPC Segments Analysis Recommendations by Activity

Scenario Backlog
Budget PVPC Unlimited
Description Unlimited funding

Time Frame 1
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year ***1***

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BIRCH HILL ROAD	BLANDFORD TURNPIKE	COBBLE MOUNTAIN ROAD	1056 ft	5RPA - Do Nothing	$0	99.98	37.70
33 BIRCH HILL ROAD	COBBLE MOUNTAIN ROAD	HAYDEN ROAD	783 ft	5RPA - Do Nothing	$0	99.98	37.70
33 BIRCH HILL ROAD	HAYDEN ROAD	BEAGLE CLUB ROAD	1046 ft	5RPA - Do Nothing	$0	100.00	37.69
33 BIRCH HILL ROAD	BEAGLE CLUB ROAD	DEAD END	3090 ft	5RPA - Do Nothing	$0	100.00	26.15
33 BLANDFORD TURNPIKE	NORTH STREET	KAOILIN ROAD	2629 ft	5RPA - Do Nothing	$0	94.72	57.01
33 BLANDFORD TURNPIKE	KAOILIN ROAD	SOUTH STREET	1274 ft	5RPA - Do Nothing	$0	96.80	56.37
33 CHESTER ROAD	CHESTER T.L.	1.3 MILES	6864 ft	5RPA - Do Nothing	$0	99.86	54.66
33 CHESTER ROAD	1.3 MILES	SANDERSON BROOK ROAD	5808 ft	5RPA - Do Nothing	$0	99.86	54.66
33 COBBLE MOUNTAIN ROAD	BLANDFORD TURNPIKE	BIRCH HILL ROAD	1333 ft	5RPA - Do Nothing	$0	99.98	37.70
33 CROOKS ROAD	COBBLE MOUNTAIN ROAD	SOUTH STREET	3086 ft	5RPA - Do Nothing	$0	99.98	37.70
33 GLASGOW ROAD	BLANDFORD TURNPIKE	DEAD END	1000 ft	5RPA - Do Nothing	$0	100.00	26.15
33 HAYDEN ROAD	HAYDEN ROAD	COBBLE MOUNTAIN ROAD	307 ft	5RPA - Do Nothing	$0	99.98	37.70
33 HERRICK ROAD	OTIS STAGE ROAD	DEAD END	5210 ft	5RPA - Do Nothing	$0	94.76	27.77
33 HUNTINGTON ROAD	CHESTER ROAD	TRANSFER STATION	1848 ft	5RPA - Do Nothing	$0	99.97	38.47
33 KAOLIN ROAD	BLANDFORD TURNPIKE	RUSSELL ROAD	2443 ft	5RPA - Do Nothing	$0	99.97	37.70
33 OLD CHESTER ROAD	CHESTER ROAD	NORTH BLANDFORD ROAD	6314 ft	5RPA - Do Nothing	$0	99.97	37.70
33 RUSSELL ROAD	BLANDFORD TURNPIKE	HOUSE 17	2006 ft	5RPA - Do Nothing	$0	99.93	50.79
33 SOUTH STREET	BLANDFRD TURNPIKE	CROOKS ROAD	8335 ft	5RPA - Do Nothing	$0	99.98	37.70
33 SUNSET ROAD	BLANDFORD TURNPIKE	DEAD END	1161 ft	5RPA - Do Nothing	$0	100.00	26.15
33 UNNAMED ROAD	OLD CHESTER ROAD	DEAD END	1194 ft	5RPA - Do Nothing	$0	100.00	26.15
33 UNNAMED ROAD	NORTH STREET	DEAD END	1842 ft	5RPA - Do Nothing	$0	100.00	26.15
33 WYMAN ROAD	BLANDFORD TURNPIKE	DEAD END	711 ft	5RPA - Do Nothing	$0	100.00	26.15
Segment Count 22			**11.2**	miles	**$0**		
33 BEECH HILL ROAD	GRANVILLE TOWN LINE	2.35 miles (GATE 22 FOREST)	12434 ft	4RPA - Routine Maintenance	$32,577	76.80	57.14
33 BEECH HILL ROAD	2.35 miles (GATE 22 FOREST)	OTIS STAGE ROAD	4348 ft	4RPA - Routine Maintenance	$11,392	76.80	57.14
33 BLANDFORD TURNPIKE	SOUTH STREET	RUSSELL T.L.	9246 ft	4RPA - Routine Maintenance	$32,299	86.57	59.52
33 CHESTER ROAD	SANDERSON BROOK ROAD	HUNTINGTON ROAD	10032 ft	4RPA - Routine Maintenance	$32,125	83.20	59.78
33 CURTIS HALL ROAD	OTIS TOLLAND ROAD	MOREAU ROAD	3948 ft	4RPA - Routine Maintenance	$11,493	81.40	55.72
33 GORE ROAD	NORTH STREET	459 FEET	459 ft	4RPA - Routine Maintenance	$1,336	83.25	42.85
33 H B SPERRY ROAD	RUSSELL ROAD	DEAD END	4752 ft	4RPA - Routine Maintenance	$13,834	83.43	31.25

PVPC Segments Analysis Recommendations by Activity

Scenario Backlog
Description Unlimited funding
Budget PVPC Unlimited
Time Frame 1
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 1

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 MOREAU ROAD	CURTIS HALL	BROOKMAN DRIVE	2046 ft	4RPA - Routine Maintenance	$5,956	76.80	44.83
33 OTIS TOLLAND ROAD	CURTIS HALL ROAD	TOLLAND TOWN LINE	5104 ft	4RPA - Routine Maintenance	$14,858	82.00	55.54
33 RUSSELL ROAD	HOUSE 17	RUSSELL T.L.	11616 ft	4RPA - Routine Maintenance	$42,269	82.32	56.21
33 SHEPARD ROAD	SOUTH OTIS ROAD	.72 MILES	3832 ft	4RPA - Routine Maintenance	$8,924	83.15	38.26
Segment Count 11			**12.8**	miles	**$207,064**		
33 GORE ROAD	459 FEET	NORTH BLANDFORD ROAD	5670 ft	3RPA - Preventive Maintenance	$187,236	66.32	48.06
33 LLOYD ROAD	SHEPARD ROAD	.3 MILES	1584 ft	3RPA - Preventive Maintenance	$31,384	63.14	49.03
Segment Count 2			**1.4**	miles	**$218,620**		
33 NORTH BLANDFORD ROAD	OLD CHESTER ROAD	JJ CROSS ROAD	7012 ft	2RPA - Rehabilitation	$490,217	28.06	72.14
33 NORTH BLANDFORD ROAD	JJ CROSS	OTIS STAGE ROAD	10838 ft	2RPA - Rehabilitation	$757,696	28.06	72.14
33 SECOND DIVISION ROAD	RUSSELL ROAD	.9 MILES	4732 ft	2RPA - Rehabilitation	$297,737	39.85	56.20
33 SECOND DIVISION ROAD	.9 MILES	TO DIRT (BLOCKED)	2112 ft	2RPA - Rehabilitation	$132,887	42.88	55.27
Segment Count 4			**4.7**	miles	**$1,678,538**		
33 NORTH BLANDFORD ROAD	OTIS TOWN LINE	OLD CHESTER ROAD	10606 ft	1RPA - Reconstruction	$1,853,929	19.51	74.77
Segment Count 1			**2.0**	miles	**$1,853,929**		
33 COBBLE MOUNTAIN ROAD	BIRCH HILL ROAD	CROOKS ROAD	5280 ft	1aRPA - Reconstuction	$612,809	19.26	62.54
33 OLD CHESTER ROAD	CHESTER ROAD	TURNPIKE SHOP DRIVEWAY	798 ft	1aRPA - Reconstuction	$109,457	15.86	63.58
33 WATSON PARK ROAD	BLANDFORD TURNPIKE	WATSON PARK ROAD	2437 ft	1aRPA - Reconstuction	$154,278	4.54	67.06
Segment Count 3			**1.6**	miles	**$876,544**		
Plan cost for Plan Year 1			**33.8**	miles	**$4,834,695**		
Segment Count 43							
			33.8	miles	**$4,834,695**		

APPENDIX C

Summary of Plan Scenarios

Anticipated Budget
Budget to Maintain Average Present OCI Level

Anticipated Budget

Anticipated OCI Funding Impact Summary
Listing by Plan Year and Recommended Repair Activity

PVPC OCI Funding Impact

PVPC OCI Funding Impact

Model ID Anticipated
Scenario Anticipated
Protocol RPA Roadway
Budget PVPC Anticipated Budget
Description Anticipated Annual funding

Time Frame 5
Inflation 4.50
Interest Rate 0.00
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year *1*
Unimproved Network OCI = 73.59
Cost of Improvement = $199,130.85
Improved Network OCI = 75.85

Plan Year *2*
Unimproved Network OCI = 73.05
Cost of Improvement = $200,463.70
Improved Network OCI = 77.07

Plan Year *3*
Unimproved Network OCI = 74.64
Cost of Improvement = $195,612.65
Improved Network OCI = 76.37

Plan Year *4*
Unimproved Network OCI = 74.12
Cost of Improvement = $141,826.87
Improved Network OCI = 75.58

Plan Year *5*
Unimproved Network OCI = 73.37
Cost of Improvement = $21,555.03
Improved Network OCI = 73.90

Total Plan Cost =$758,589.10

Total Scenarios 1

PVPC Segments Analysis Recommendations by Activity

Scenario Anticipated
Description Anticipated Annual funding
Budget PVPC Anticipated Budget

Time Frame 5
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 1

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BEECH HILL ROAD	2.35 miles (GATE 22 FOREST)	OTIS STAGE ROAD	4348 ft	4RPA - Routine Maintenance	$11,392	76.80	57.14
33 CHESTER ROAD	SANDERSON BROOK ROAD	HUNTINGTON ROAD	10032 ft	4RPA - Routine Maintenance	$32,125	83.20	59.78
33 GORE ROAD	NORTH STREET	459 FEET	459 ft	4RPA - Routine Maintenance	$1,336	83.25	42.85
Segment Count 3			**2.8**	miles	**$44,853**		
33 WATSON PARK ROAD	BLANDFORD TURNPIKE	WATSON PARK ROAD	2437 ft	1aRPA - Reconstuction	$154,278	4.54	67.06
Segment Count 1			**0.5**	miles	**$154,278**		
Plan cost for Plan Year 1			**3.3**	miles	**$199,131**		
Segment Count 4							

PVPC Segments Analysis Recommendations by Activity

Scenario Anticipated
Description Anticipated Annual funding
Budget PVPC Anticipated Budget
Time Frame 5
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 2

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BEECH HILL ROAD	GRANVILLE TOWN LINE	2.35 miles (GATE 22 FOREST)	12434 ft	4RPA - Routine Maintenance	$34,069	71.15	58.88
33 BLANDFORD TURNPIKE	SOUTH STREET	RUSSELL T.L.	9246 ft	4RPA - Routine Maintenance	$33,779	82.76	60.69
33 CURTIS HALL ROAD	OTIS TOLLAND ROAD	MOREAU ROAD	3948 ft	4RPA - Routine Maintenance	$12,019	76.92	57.10
33 MOREAU ROAD	CURTIS HALL	BROOKMAN DRIVE	2046 ft	4RPA - Routine Maintenance	$6,229	71.15	46.57
Segment Count 4			**5.2**	miles	**$86,096**		
33 OLD CHESTER ROAD	CHESTER ROAD	TURNPIKE SHOP DRIVEWAY	798 ft	1aRPA - Reconstuction	$114,367	14.86	63.89
Segment Count 1			**0.2**	miles	**$114,367**		
Plan cost for Plan Year 2			**5.4**	miles	**$200,464**		
Segment Count 5							

PVPC Segments Analysis Recommendations by Activity

Scenario Anticipated
Description Anticipated Annual funding
Budget PVPC Anticipated Budget
Time Frame 5
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 3

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 OTIS TOLLAND ROAD	CURTIS HALL ROAD	TOLLAND TOWN LINE	5104 ft	4RPA - Routine Maintenance	$16,219	72.20	58.55
Segment Count 1			**1.0**	miles	**$16,219**		
33 LLOYD ROAD	SHEPARD ROAD	.3 MILES	1584 ft	3RPA - Preventive Maintenance	$34,257	47.52	53.84
Segment Count 1			**0.3**	miles	**$34,257**		
33 SECOND DIVISION ROAD	.9 MILES	TO DIRT (BLOCKED)	2112 ft	2RPA - Rehabilitation	$145,137	32.92	58.33
Segment Count 1			**0.4**	miles	**$145,137**		
Plan cost for Plan Year 3			**1.7**	miles	**$195,613**		
Segment Count 3							

PVPC Segments Analysis Recommendations by Activity

Scenario Anticipated
Budget PVPC Anticipated Budget
Description Anticipated Annual funding

Time Frame 5
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year *4*

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BLANDFORD TURNPIKE	NORTH STREET	KAOILIN ROAD	2629 ft	4RPA - Routine Maintenance	$10,516	87.11	59.35
33 H B SPERRY ROAD	RUSSELL ROAD	DEAD END	4752 ft	4RPA - Routine Maintenance	$15,840	72.10	34.74
Segment Count 2			**1.4**	miles	**$26,356**		
33 SHEPARD ROAD	SOUTH OTIS ROAD	.72 MILES	3832 ft	3RPA - Preventive Maintenance	$115,471	67.04	43.22
Segment Count 1			**0.7**	miles	**$115,471**		
Plan cost for Plan Year 4			**2.1**	miles	**$141,827**		
Segment Count 3							

PVPC Segments Analysis Recommendations by Activity

Scenario Anticipated
Budget PVPC Anticipated Budget
Description Anticipated Annual funding

Time Frame 5
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year ***5***

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BLANDFORD TURNPIKE	KAOILIN ROAD	SOUTH STREET	1274 ft	4RPA - Routine Maintenance	$5,300	87.59	59.20
33 HERRICK ROAD	OTIS STAGE ROAD	DEAD END	5210 ft	4RPA - Routine Maintenance	$16,255	82.14	31.65
Segment Count 2			**1.2**	miles	**$21,555**		
Plan cost for Plan Year 5			**1.2**	miles	**$21,555**		
Segment Count 2							
			13.7	miles	**$758,589**		

Budget to maintain present OCI level

Maintain the Average OCI Funding Impact Summary
Listing by Plan Year and Recommended Repair Activity

PVPC OCI Funding Impact

PVPC OCI Funding Impact

Model ID Maintain OCI

Scenario Maintain OCI **Time Frame** 5

Protocol RPA Roadway **Inflation** 4.50

Budget PVPC Maintain Average OCI Budget **Interest Rate** 0.00

Description Level of Annual funding determined to Maintain today's OCI **Scope** Blandford Local and Fed Aid **Start Date** 9/29/2020

Plan Year *1*

Unimproved Network OCI = 73.59

Cost of Improvement = $248,879.41

Improved Network OCI = 77.25

Plan Year *2*

Unimproved Network OCI = 74.72

Cost of Improvement = $250,313.16

Improved Network OCI = 79.90

Plan Year *3*

Unimproved Network OCI = 78.15

Cost of Improvement = $160,237.44

Improved Network OCI = 79.46

Plan Year *4*

Unimproved Network OCI = 77.84

Cost of Improvement = $339,757.60

Improved Network OCI = 79.54

Plan Year *5*

Unimproved Network OCI = 77.66

Cost of Improvement = $32,491.68

Improved Network OCI = 78.47

Total Plan Cost = **$1,031,679.29**

Total Scenarios **1**

PVPC Segments Analysis Recommendations by Activity

Scenario Maintain OCI
Budget PVPC Maintain Average OCI Budget
Time Frame 5
Description Level of Annual funding determined to Maintain today's OCI
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 1

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BEECH HILL ROAD	2.35 miles (GATE 22 FOREST)	OTIS STAGE ROAD	4348 ft	4RPA - Routine Maintenance	$11,392	76.80	57.14
33 BLANDFORD TURNPIKE	SOUTH STREET	RUSSELL T.L.	9246 ft	4RPA - Routine Maintenance	$32,299	86.57	59.52
33 CHESTER ROAD	SANDERSON BROOK ROAD	HUNTINGTON ROAD	10032 ft	4RPA - Routine Maintenance	$32,125	83.20	59.78
33 CURTIS HALL ROAD	OTIS TOLLAND ROAD	MOREAU ROAD	3948 ft	4RPA - Routine Maintenance	$11,493	81.40	55.72
33 GORE ROAD	NORTH STREET	459 FEET	459 ft	4RPA - Routine Maintenance	$1,336	83.25	42.85
33 MOREAU ROAD	CURTIS HALL	BROOKMAN DRIVE	2046 ft	4RPA - Routine Maintenance	$5,956	76.80	44.83
Segment Count 6			**5.7**	miles	**$94,601**		
33 WATSON PARK ROAD	BLANDFORD TURNPIKE	WATSON PARK ROAD	2437 ft	1aRPA - Reconstuction	$154,278	4.54	67.06
Segment Count 1			**0.5**	miles	**$154,278**		
Plan cost for Plan Year 1			**6.2**	miles	**$248,879**		
Segment Count 7							

PVPC Segments Analysis Recommendations by Activity

Scenario Maintain OCI
Budget PVPC Maintain Average OCI Budget
Time Frame 5
Description Level of Annual funding determined to Maintain today's OCI
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 2

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BEECH HILL ROAD	GRANVILLE TOWN LINE	2.35 miles (GATE 22 FOREST)	12434 ft	4RPA - Routine Maintenance	$34,069	71.15	58.88
33 OTIS TOLLAND ROAD	CURTIS HALL ROAD	TOLLAND TOWN LINE	5104 ft	4RPA - Routine Maintenance	$15,539	77.40	56.95
33 RUSSELL ROAD	HOUSE 17	RUSSELL T.L.	11616 ft	4RPA - Routine Maintenance	$44,205	76.98	57.85
33 SHEPARD ROAD	SOUTH OTIS ROAD	.72 MILES	3832 ft	4RPA - Routine Maintenance	$9,333	78.32	39.75
Segment Count 4			**6.2**	miles	**$103,146**		
33 LLOYD ROAD	SHEPARD ROAD	.3 MILES	1584 ft	3RPA - Preventive Maintenance	$32,799	55.52	51.38
Segment Count 1			**0.3**	miles	**$32,799**		
33 OLD CHESTER ROAD	CHESTER ROAD	TURNPIKE SHOP DRIVEWAY	798 ft	1aRPA - Reconstuction	$114,367	14.86	63.89
Segment Count 1			**0.2**	miles	**$114,367**		
Plan cost for Plan Year 2			**6.7**	miles	**$250,313**		
Segment Count 6							

PVPC Segments Analysis Recommendations by Activity

Scenario Maintain OCI
Budget PVPC Maintain Average OCI Budget
Time Frame 5
Description Level of Annual funding determined to Maintain today's OCI
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year ***3***

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 H B SPERRY ROAD	RUSSELL ROAD	DEAD END	4752 ft	4RPA - Routine Maintenance	$15,101	76.24	33.46
Segment Count 1			**0.9**	miles	**$15,101**		
33 SECOND DIVISION ROAD	.9 MILES	TO DIRT (BLOCKED)	2112 ft	2RPA - Rehabilitation	$145,137	32.92	58.33
Segment Count 1			**0.4**	miles	**$145,137**		
Plan cost for Plan Year 3			**1.3**	miles	**$160,237**		
Segment Count 2							

PVPC Segments Analysis Recommendations by Activity

Scenario Maintain OCI
Budget PVPC Maintain Average OCI Budget
Time Frame 5
Description Level of Annual funding determined to Maintain today's OCI
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year 4

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 SECOND DIVISION ROAD	RUSSELL ROAD	.9 MILES	4732 ft	2RPA - Rehabilitation	$339,758	27.92	59.87
Segment Count 1			**0.9**	miles	**$339,758**		
Plan cost for Plan Year 4			**0.9**	miles	**$339,758**		
Segment Count 1							

PVPC Segments Analysis Recommendations by Activity

Scenario Maintain OCI
Budget PVPC Maintain Average OCI Budget
Time Frame 5
Description Level of Annual funding determined to Maintain today's OCI
Scope Blandford Local and Fed Aid
Start Date 9/29/2020

Plan Year ***5***

Street	From	To	Length	Plan Activity	Plan Cost	OCI	NPR
33 BLANDFORD TURNPIKE	NORTH STREET	KAOILIN ROAD	2629 ft	4RPA - Routine Maintenance	$10,937	83.44	60.48
33 BLANDFORD TURNPIKE	KAOILIN ROAD	SOUTH STREET	1274 ft	4RPA - Routine Maintenance	$5,300	87.59	59.20
33 HERRICK ROAD	OTIS STAGE ROAD	DEAD END	5210 ft	4RPA - Routine Maintenance	$16,255	82.14	31.65
Segment Count 3			**1.7**	miles	**$32,492**		
Plan cost for Plan Year 5			**1.7**	miles	**$32,492**		
Segment Count 3							
			16.8	miles	**$1,031,679**		