

**CITY OF LOS ANGELES**  
INTER-DEPARTMENTAL CORRESPONDENCE

0220-05468-0000

Date: February 15, 2019

To: Honorable Members of the City Council

From: Richard H. Llewellyn, Jr., City Administrative Officer

Sharon M. Tso, Chief Legislative Analyst

Subject: **STATUS OF THE CITY'S NETWORK OF CONCRETE STREETS (CF 16-0395-S1)**

**SUMMARY**

On October 20, 2017, the Council instructed the City Administrative Officer (CAO) and the Chief Legislative Analyst (CLA) with the assistance of the Bureau of Engineering (BOE), Bureau of Streets Services (BSS), and the Bureau of Contract Administration (BCA) to report as follows:

- An analysis on how the City can address the backlog of D and F concrete street repairs;
- A comparison of the cost and longevity of similar asphalt street reconstruction projects;
- A cost comparison analysis of two concrete street repair pilot projects completed on 4<sup>th</sup> Street from Highland Avenue to McCadden Place by BSS crews and McCadden Place between 2<sup>nd</sup> and 3<sup>rd</sup> Street performed by a contractor managed by BOE and an analysis of the full costs, direct and indirect, of the use of outside contractors and/or city crews for concrete repair work; and,
- A comparison of neighborhood impacts and resident satisfaction between the two types of reconstruction.

Individual streets within the City's street network are rated based on a Pavement Condition Index (PCI). Streets are surveyed to determine their PCI score. They are then rated on a scale from "A" to "F" based on that score. Streets in good condition are rated "A" or "B," streets in fair condition are rated "C," and streets in poor condition are rated "D" or "F." The last survey cycle to determine the PCI of the City's concrete streets was performed between 2015 and 2017. Attachment 1 details the condition of both residential and major concrete streets within each Council District as of November 2018.

The City's concrete street network is approximately 1,184 lane miles, consisting of:

- 111 lane miles in good condition ("A" or "B" rating; 9 percent),
- 108 lane miles in fair condition ("C" rating; 9 percent), and
- 965 lane miles in poor condition ("D" or "F" rating; 82 percent).

The City has an additional 1,893 lane miles of concrete streets which have been rehabilitated with an asphalt overlay. For maintenance purposes, these concrete streets are reflected in BSS' lane mile totals for the City's asphalt street network. Similar to asphalt streets, overlaid streets may be resurfaced as part of the City's Pavement Preservation Program.

The City's asphalt street network, including streets which have been rehabilitated with an asphalt overlay, is approximately 21,790 lane miles, consisting of approximately:

- 13,278 lane miles in good condition (61 percent),
- 3,979 lane miles in fair condition (18 percent), and
- 4,533 lane miles in poor condition (21 percent).

Attachment 2 details the condition of both residential and major asphalt streets within each Council District as of November 2018.

Historically, the City has not regularly funded repair programs for concrete streets in poor condition. Our Offices consulted with BSS to determine the current condition of the City's concrete streets and to develop an approach to address the backlog of necessary concrete repairs. A new PCI assessment of the City's concrete streets will be completed by June 2019 and will be followed by field assessments to determine the level of work required on each inspected street.

BSS proposes, and our Offices concur, that during this assessment, the City's concrete streets should be divided into one of three categories (1) streets which are candidates for asphalt overlay; (2) streets which require small scale repairs, defined as the removal and repair of individual concrete panels (ranging from 10 feet by 12 feet to 20 feet by 12 feet); and (3) streets which require large scale repair and/or reconstruction, defined as (a) streets requiring the replacement of an entire street segment, curb face to curb face and/or (b) repairs and/or reconstruction which require engineering and design work.

This report discusses the scope of these categories and how the repairs within each of these categories may be addressed.

## **RECOMMENDATIONS**

That the Council:

- 1) **INSTRUCT** the Bureau of Street Services (BSS) to determine which of the City's concrete streets are candidates for asphalt overlay and, in consultation with the appropriate Council Offices, decide which concrete streets should receive an

asphalt overlay and be incorporated into the City's Pavement Preservation Program;

- 2) INSTRUCT the City Administrative Officer (CAO) and BSS to report with a proposed work plan, including maintenance, and an analysis of the funding necessary to address the concrete streets requiring small scale repairs, defined as the removal and repair of individual concrete panels (ranging from 10 feet by 12 feet to 20 feet by 12 feet); and,
- 3) INSTRUCT the CAO and the Chief Legislative Analyst, with the assistance of BSS, the Bureau of Engineering, and the Bureau of Contract Administration, to report with a proposed work plan, including maintenance, and an analysis of the funding necessary to establish a Concrete Street Reconstruction Program that addresses concrete streets requiring large scale repair and/or reconstruction, defined as (a) streets requiring the replacement of an entire street segment, curb face to curb face and/or (b) repairs and/or reconstruction which require engineering and design work.

## **DISCUSSION**

### **1. STATUS OF THE CITY'S CONCRETE STREET NETWORK**

In past budget cycles, the City has fully funded the Pavement Preservation Program prior to funding the repair and/or reconstruction of "D" and "F" (poor) concrete streets. In evaluating how to address the backlog of required repair work, our Offices consulted with BSS to develop an understanding of the scope of work necessary to bring the City's concrete streets into a state of good repair ("A" or "B" rating).

Current PCI data indicates that 965 (82 percent) of the City's 1,184 concrete lane miles are in poor condition. By comparison, 4,533 (21 percent) of the City's 21,790 asphalt lane miles are in poor condition (including those concrete lane miles with an asphalt overlay). The PCI data alone provides an incomplete understanding of each street's overall condition. PCI is a statistical measure of the number and types of surface distresses in a street. A field analysis is required to determine the work necessary to bring a street into a state of good repair. A new survey to determine the current PCI of each concrete street will be completed in June 2019.

Once that survey is complete, BSS staff will conduct field inspections to determine the nature of the necessary repair work. BSS anticipates completing these field inspections by the end of September 2019. BSS does not require additional resources to complete these inspections. BSS has advised that concrete repairs may involve:

- a. an asphalt overlay,
- b. small scale repairs (requiring removal and repair of individual concrete panels ranging from 10 feet by 12 feet to 20 feet by 12 feet), and

- c. large scale repair and/or reconstruction, defined as (a) streets requiring the replacement of an entire street segment, curb face to curb face and/or (b) repairs and/or reconstruction which require engineering and design work.

As staff completes field investigations concrete streets will be divided into these three categories, as set forth below:

**A. Concrete Streets Eligible for Asphalt Overlay**

BSS currently incorporates asphalt overlay work into the Pavement Preservation Program to address the need to repair the City's concrete streets, while continuing to perform ongoing preventative maintenance to the City's asphalt streets. The City's total network of concrete streets, before asphalt overlays were applied, consisted of 3,077 lane miles. BSS has applied asphalt overlay to approximately 1,893 lane miles of concrete streets across the City. Concrete streets with an asphalt overlay account for 62 percent of the City's overall concrete street network. Currently, 56 percent of concrete streets with asphalt overlay are in good condition, 16 percent are in fair condition, and 28 percent are in poor condition. The table below details concrete lane miles with asphalt overlay, by Council District.

<b>Asphalt Overlay LM</b>				
<b>CD</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>	<b>CD Total</b>
1	63.26	8.09	20.51	91.86
2	75.93	25.03	76.92	177.88
3	19.84	7.00	4.03	30.87
4	127.20	36.02	71.64	234.86
5	88.23	31.30	43.74	163.27
6	43.34	18.66	38.75	100.75
7	37.38	22.84	22.14	82.37
8	105.44	35.81	44.51	185.76
9	56.14	18.24	20.81	95.19
10	66.13	28.23	43.42	137.78
11	87.21	19.09	21.03	127.33
12	16.02	8.01	18.35	42.39
13	75.54	16.73	24.57	116.84
14	64.54	15.72	38.49	118.75
15	133.68	19.09	34.39	187.15
<b>Total</b>	<b>1,059.89</b>	<b>309.84</b>	<b>523.30</b>	<b>1,893.03</b>

Concrete streets eligible for asphalt overlay will be those with a stable concrete base with no expansion joint shifting. Such concrete streets have some cracking and minimal base failure that can be repaired with an asphalt overlay. Asphalt overlays allow the City to rehabilitate the existing surface of eligible concrete roadways to repair irregularities and strengthen old pavement. Providing an asphalt overlay protects the underlying concrete base, extending the longevity of the street. Concrete streets with an asphalt overlay can then receive ongoing preventative maintenance in the form of slurry seal and resurfacing.

Concrete streets with asphalt overlay still have a concrete base. Should these streets require large scale repair and/or reconstruction in the future, they can be reconstructed in either concrete or asphalt.

BSS' average cost to resurface an asphalt street is \$116,046 per lane mile (\$2 per square foot). The Bureau's cost to apply an asphalt overlay to a concrete street is approximately 35 percent higher than the cost to resurface an asphalt street (\$156,662 per lane mile or \$2.70 per square foot). The increased cost is attributed to higher staff costs incurred as overlay work requires the removal of 1.5 inches of concrete from the roadway surface prior to application of the asphalt overlay. Concrete removal takes longer than asphalt removal. BSS has also advised that this concrete removal work impacts the useful life of resurfacing equipment. Despite the extra time required, asphalt overlay work can be performed faster than other rehabilitation options and is more cost effective. Of the three repair categories addressed in this report, BSS recommends prioritizing asphalt overlays.

To determine which streets are eligible for asphalt overlay, BSS will conduct a field investigation and will also evaluate traffic volume and type, such as bus and truck traffic; whether the street is located in a Historic Preservation Overlay Zone (HPOZ); and the tree canopy and temperature of the area the street is located. There is also a recognition that outside of HPOZs, some residents may favor maintaining their concrete streets. Once BSS has determined which streets are eligible for asphalt overlay, community outreach will be necessary to inform residents of the benefits associated with asphalt overlay and to receive community input before making the final decision to apply an asphalt overlay to the selected concrete streets.

In Fiscal Year 2018-19, BSS will utilize \$76,010,141 to perform asphalt resurfacing work citywide. BSS will continue to incorporate asphalt overlay of concrete lane miles into its work program. Since July 2015, BSS has applied asphalt overlay to 257 lane miles of concrete streets. The 2018-19 Pavement Preservation Program includes 5.73 lane miles of asphalt overlay. BSS has completed 2.29 lane miles of the proposed asphalt overlay work. With current funding and staffing levels, BSS has advised that it can increase its annual asphalt overlay work to between 6 and 12 lane miles.

Should the Council prioritize asphalt overlay work, while preserving current asphalt resurfacing levels, additional funding will be required to significantly increase asphalt overlay work. If BSS' funding were to be increased for additional asphalt overlay work, additional funding will also be necessary for the General Service Department (GSD), the Bureau of Engineering (BOE), and the Department of Transportation (DOT) for related activities.

#### B. Concrete Streets Requiring Small Scale Repairs

A second category of concrete streets requires the removal and replacement of damaged, old, off-grade or failed concrete roadway. The repair work falling within this category would be limited to the removal and repair of individual concrete panels comprising an area less than an entire street segment, curb face to curb face. Individual concrete panels range in size from 10 feet by 12 feet to 20 feet by 12 feet, with an average panel size of

11 feet by 11 feet. Concrete panels can be replaced to repair damage caused by tree roots uplifting panels, moderate base failure affecting an individual panel, or panels causing cracking or drainage issues. "Small scale repairs" will be those which conform to existing standard plans and do not require engineered plans or design. All concrete removed would be recycled and/or crushed in house and used as crushed miscellaneous base.

BSS has proposed that this "small scale" work be performed utilizing BSS crews and equipment. Our Offices recommend that Council instruct the CAO and BSS to report, following completion of BSS' field analysis of concrete streets, with a proposed work plan for addressing the required small scale repairs, as well as an analysis of the funding and resources necessary to perform that work.

### C. Concrete Streets Requiring Large Scale Repair and/or Reconstruction

Many of the City's concrete streets were constructed in the 1920s and have reached the end of their service life. Concrete streets requiring "large scale repair and/or reconstruction" may fall into one of two categories: (1) streets requiring the replacement of an entire street segment, curb face to curb face or (2) repairs and/or reconstruction which require engineering and design work. Depending on the condition of the street, work may include curb, gutter, access ramp, and/or driveway repairs.

BSS recommends that all large scale repair and/or reconstruction work be performed by contractors. BSS is not currently staffed or equipped to perform concrete street repair and/or reconstruction projects of this type. Our Offices met with BOE and BSS, separately, to discuss contracting large scale repairs and/or reconstruction work. Although funds budgeted for concrete repair and/or reconstruction have historically been utilized to contract work through BOE, BSS has expressed a preference for BSS to award and manage contracts for concrete street repairs. At this time, the scope of streets requiring large scale repair and/or reconstruction is unknown, making it difficult to determine what resources would be necessary for either Bureau to manage the required contracts.

Our Offices recommend that Council instruct the CAO and the CLA, with the assistance of BSS, BOE, and the Bureau of Contract Administration to report with a proposed work plan and an analysis of the funding necessary to establish a Concrete Street Reconstruction Program to address the concrete streets requiring large scale repair and/or reconstruction. As BSS completes field investigations of the City's concrete streets, our Offices will work with the Bureaus to develop recommendations for a multiyear Concrete Street Reconstruction Program which would enable staff to scope the program and work with Council offices to prioritize projects across multiple fiscal years.

## **2. COMPARISON OF ASPHALT VERSUS CONCRETE**

Our Offices were also instructed to compare the cost and longevity of concrete and asphalt street repairs and reconstruction.

Although it costs less to perform asphalt street reconstruction, other factors need to be considered before determining if a concrete street should be repaired with an asphalt overlay, reconstructed as an asphalt street, or reconstructed in concrete. One consideration is street longevity. Concrete streets have a useful life of 30-50 years. An asphalt street's lifespan ranges from 15-25 years. Factors such as climate, types of traffic, volume of traffic, and the performance of routine maintenance affect the lifespan of individual streets. Generally, asphalt streets must be reconstructed one or more times during the lifespan of a concrete street.

Residential and major asphalt streets require ongoing maintenance through the application of slurry seal, small asphalt repairs, and/or crack sealing as needed. A residential asphalt street may be slurry sealed a maximum of three times, extending the serviceability of the street by a maximum of 21 years. Assuming a residential street is slurry sealed three times over its serviceable life, this will cost roughly \$16,000 per lane mile for each slurry seal application, or roughly \$48,000 per lane mile over the life of the street. Concrete streets, by comparison, do not require regular maintenance as frequently as asphalt streets. BSS is currently looking into a surface treatment for concrete, similar to slurry used on asphalt, to assist in maintaining and preserving the street.

In addition to cosmetic appeal, streets are concrete for logistical reasons such as high bus traffic areas and drainage related issues. Concrete streets are light and naturally reflective and can lower street temperatures, contributing to the urban cooling effect. Finally, both materials are recyclable and can be used for other construction or resurfacing projects. The City currently utilizes reclaimed asphalt pavement in its reconstruction and resurfacing projects. BSS has also advised that while recycled concrete can be used as base material, further research is required to determine whether recycled concrete would be cheaper to utilize. Use of any new recycled materials would require approval from GSD.

Our Offices were asked to provide a cost comparison analysis of two pilot projects falling within these two categories of large repair and/or reconstruction. Pilot projects were completed on 4<sup>th</sup> Street from Highland Avenue to McCadden Place (4<sup>th</sup> Street Project) and McCadden Place between 2<sup>nd</sup> and 3<sup>rd</sup> Street (McCadden Project) in Council District 4. These projects are analyzed below:

- i. *4<sup>th</sup> Street Project:* On November 6, 2016, BSS completed concrete street reconstruction on 4th Street from Highland Avenue to McCadden Place. BSS utilized one off-budget construction crew to complete this project. Prior to the reconstruction work, this street segment had a PCI of 11.69. This project utilized a standard design plan and included 177 linear feet of curb work, 160 square feet of driveway work, and 0.19 lane miles (10,500 square feet) of concrete street repair. Construction took two weeks to complete at a total project cost of \$149,069.74. BSS' costs include survey work which was performed by Bureau staff to ensure adequate elevation and flow lines were installed. Following this reconstruction work, the PCI for this street segment is 100.

- ii. *McCadden Project:* On April 4, 2018, BOE's contractor completed concrete reconstruction work on McCadden Place between 2<sup>nd</sup> Street to 3<sup>rd</sup> Street. Prior to the reconstruction work, this street segment had a PCI of 19.69. This project was designed by the BOE Street Improvement and Stormwater Division (instead of utilizing a standard design plan) to allow for improved drainage. This project included 0.40 lane lines (23,388 square feet) of concrete street repair and 18 linear feet of curb work. Actual construction was completed in roughly two months at a total project cost of \$633,757.86. Several factors led to the two month construction timeframe. The traffic control plan approved by DOT required the contractor to do the construction in three phases. In addition, during construction a section of the street was found to have badly damaged concrete which required a change order. Finally, it was discovered late in the construction work that stop bar lines were not included in the striping plan and needed to be added to the contract via change order. Prior to construction, the project required several months of preconstruction activities including design, plan review, etc. This project required design and contract management which contributed to the cost differential between the two projects. Roughly 36 percent (\$225,451.83) of the overall cost of the McCadden Project was attributed to BOE staff costs which include, among other things: survey work, contract administration, and design. Following this reconstruction work, the PCI for this street segment is 100.
  
- iii. *Comparison of Pilot Projects:* The cost of construction using BSS crews to complete the 4<sup>th</sup> Street Project were lower than the cost of construction for the McCadden Project using a contractor (\$13.76 per square foot and \$17.44 per square foot, respectively). Although BSS' per square foot costs were lower, these projects do not provide an adequate data set for evaluating the potential range of work required on the City's concrete streets. While the scope of necessary work will vary from street to street, design and engineering work will be required for the most complex repair and reconstruction projects. In these situations, design and engineering work will be necessary regardless of whether the work is performed by a BOE contractor or BSS crews and may result in higher overall project costs to implement the necessary design and engineering.

Our Offices do not currently have sufficient data to assess the cost effectiveness of dedicating resources to repair and/or reconstruct streets in concrete versus asphalt. In order to perform this assessment, our Offices require additional information regarding the scope and nature of work required on individual streets in the City's concrete network along with the useful life and maintenance costs associated with concrete versus asphalt on these streets. The result of this analysis may vary based on the characteristics of and work required on individual streets. As BSS completes field assessments of the City's concrete streets as recommended herein, our Offices will work with the Bureau to develop an incremental approach to determining the most cost effective approach to addressing the City's concrete streets in poor condition.

- iv. *Neighborhood Impacts & Resident Satisfaction:* Our Offices were also asked to provide a comparison of neighborhood impacts and resident satisfaction between the two types of reconstruction. With the assistance of Council District 4, our Offices surveyed residents in the vicinity of the two pilot projects. Council staff went door to door in the vicinity of the project, visiting approximately 70 homes. Responses were received from eight residents. These responses primarily addressed the McCadden Project. One of the responses received referenced the 4<sup>th</sup> Street Project. Residents were asked about their overall satisfaction with the project construction, project schedule, the level of communication regarding the project, project staff, overall appearance of the finished project, and impacts to the neighborhood during construction.

The responses received were largely favorable. Two responses noted the need to detour around the McCadden Project but also noted that the detours were “necessary” and signage was provided to inform drivers of the detour route. Half of the responses requested that the reconstruction work continue beyond the limit of the McCadden Project. In addition to the survey responses, emails were shared with our Offices which also detailed mostly positive experiences with the McCadden Project, noting the responsiveness of the crews and limited disruptions. While positive responses were received regarding the McCadden Project, the survey results were inconclusive. Additional surveying is required to provide an assessment of the relative neighborhood impacts and resident satisfaction.

In soliciting feedback regarding these two projects, residents also shared experiences with prior concrete reconstruction projects in Hancock Park. The primary concerns raised by residents were delays in the project timelines and lack of communication between the City and residents regarding the project timeline and expected neighborhood disruptions. Residents expressed a desire for timely and cost effective work to improve the quality of their streets.

### **3. HISTORICAL FUNDING FOR CONCRETE AND ASPHALT STREET RECONSTRUCTION**

Historically, the City has not funded reconstruction programs for either concrete or asphalt streets. The Pavement Preservation Program includes activities required to properly maintain the City street system and keep the system from deteriorating. The Program is led by BSS with support provided by the DOT, BOE, and GSD. Generally, the approach to pavement preservation incorporates three strategies: 1. the most economical selection of streets and rehabilitation method used (not reconstruction); 2. the prevention or slowing of the deterioration of streets; and 3. maintenance of the overall street system.

The 2018-19 Adopted Budget includes a total of \$147,886,881 in funding for the Pavement Preservation Program which provides for approximately 1,545 lane miles of slurry seal and 655 lane miles of resurfacing to maintain the current overall PCI of 69.5.

This budget includes funding for BSS and related activities and support provided by BOE, DOT, and GSD.

The Street Reconstruction Program was established in Fiscal Year 2017-18 and includes activities required to repair the most severely damaged (failed) streets within the City street system. The Street Reconstruction Program is led by the City Engineer with support provided by BCA, the Bureau of Sanitation, BSS, DOT, and GSD. Funding for the Street Reconstruction Program is provided by the Street Damage Restoration Fund, Measure M, and SB1 (Gas Tax). The 2018-19 Budget currently includes \$54,137,325 in funding for asphalt reconstruction.

The City has not yet funded dedicated programs for concrete street repairs and reconstruction. Concrete repair and reconstruction work has been budgeted on an ad hoc basis and the work has primarily been performed by contractors managed by BOE. There are no dedicated concrete street repair and/or reconstruction crews within BSS. City crews have completed concrete projects such as the 4<sup>th</sup> Street Project and small Council District directed projects. However, in doing so, BSS diverted resources from other projects to complete the concrete work. As noted above, BSS utilized one off-budget crew to complete the 4<sup>th</sup> Street Project. The City has also performed grant funded concrete work such as the Wilshire Bus Rapid Transit (BRT) Project which was performed by a BOE contractor. Completed in 2015, this project consisted primarily of reconstruction of the curb lanes and gutters in concrete and the repair and resurfacing of the middle asphalt lanes. Completed in coordination with Metro, the Wilshire BRT project was funded through a federal grant and local matching funds.

In the 2014-15 Adopted Budget, a total of \$400,000 was budgeted within the Capital Improvement Expenditure Program (CIEP) to perform work in Hancock Park. A total of five concrete intersections were repaired using a contractor managed by BOE. In the 2016-17 Adopted Budget, a total of \$750,000 was budgeted to address priority areas in accordance with HPOZ mandates. These funds were utilized to complete the two pilot projects discussed in this report.

In the 2017-18 Adopted Budget, a total of \$ 4.2 million was budgeted for concrete streets. In June 2018, the Street and Transportation Project Oversight Committee (STPOC) approved three locations for reconstruction of deteriorated and damaged concrete pavement located within Council District 8, 9, and 10. Construction is slated to begin in November 2019 and end in November of 2020.

In the 2018-19 Adopted Budget, a total of \$455,782 is budgeted for concrete streets. Funding for this project is provided by SB 1 and was not authorized until January 1, 2019. Locations have not been selected and will be determined at a later time.

#### *Eligible Funding Sources for Concrete Streets*

Should the Council choose to establish of a Concrete Street Repair and Reconstruction Program, the following funding sources can be utilized for that work:

- Measure R Local Return Fund

- Measure M Local Return Fund
- Special Gas Tax Improvement Fund
- Road Maintenance and Rehabilitation Program Special Fund (SB 1)
- Proposition C Local Return: funds may be used to develop and/or improve public transit, paratransit, and the related transportation infrastructure which includes street improvements supporting public transit.
- Proposition A: Prop A is an eligible source of funds but is fully allocated through 2032 by the 2018 Transit Service Analysis
- Local Transportation Fund: funds may be used for bike lanes and pedestrian specific improvements
- General Fund

On December 6, 2018, the City's updated Street Damage Restoration Fee (SDRF) became effective. Los Angeles Municipal Code Section 62.06(A)(4) now requires that "for any excavation on a concrete street, full slab replacement is required in lieu of paying the SDRF." Based on this requirement, the SDRF may not be utilized for concrete repairs or reconstruction. The impact of the replacement requirement on the City's concrete streets is unavailable at this time as this is a new requirement.

The above identified funding sources are fully allocated to other City programs. Use of these funds for a Concrete Street Repair and Reconstruction Program would require a policy decision by the Council and Mayor regarding the reallocation of these funds from other important uses. There may be other funding sources available to support concrete repair and reconstruction work. A full analysis of funding options will be provided in conjunction with the development of recommendations for establishing a Concrete Street Repair and Reconstruction Program.

## **FISCAL IMPACT STATEMENT**

As this report is provided for informational purposes only, there is no fiscal impact.

*RHL/SMT:NCT/JMQ:06190030*

Attachments

Attachment 1

CONCRETE STREETS										
CD	Residential Streets LM			Major Streets LM			Total LM			CD Total
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	
01	4.07	6.95	63.85	2.00	0.61	5.27	6.07	7.56	69.12	82.75
02	5.77	7.80	20.98	1.28	2.38	7.28	7.05	10.19	28.26	45.49
03	-	-	8.28	0.46	0.02	-	0.46	0.02	8.28	8.77
04	10.16	5.36	200.42	4.00	6.23	47.14	14.17	11.59	247.57	273.32
05	2.40	2.91	45.60	4.76	2.81	17.75	7.16	5.72	63.36	76.24
06	1.67	-	2.20	12.09	4.90	8.10	13.77	4.90	10.30	28.97
07	0.67	0.75	2.14	1.87	-	0.23	2.54	0.75	2.37	5.66
08	5.10	14.05	134.93	0.68	2.95	6.19	5.78	17.01	141.12	163.91
09	7.37	10.12	24.32	11.93	5.05	3.13	19.30	15.18	27.45	61.93
10	0.96	5.45	65.77	1.23	-	10.76	2.19	5.45	76.53	84.17
11	1.27	3.07	39.39	0.44	0.18	7.03	1.71	3.25	46.42	51.38
12	0.40	-	-	1.91	0.42	-	2.32	0.42	-	2.74
13	3.08	6.76	73.86	0.51	2.18	22.47	3.59	8.94	96.33	108.86
14	4.17	4.14	62.42	6.03	3.14	16.18	10.20	7.28	78.60	96.07
15	3.10	6.43	64.31	11.44	2.93	5.20	14.55	9.36	69.52	93.43
<b>Citywide Total</b>	<b>50.21</b>	<b>73.81</b>	<b>808.47</b>	<b>60.64</b>	<b>33.81</b>	<b>156.73</b>	<b>110.85</b>	<b>107.62</b>	<b>965.20</b>	<b>1183.67</b>

11/15/2018

Good	Fair	Poor
9%	9%	82%

ASPHALT STREETS										
CD	Residential Streets LM			Major Streets LM			Total Streets LM			CD Total LM
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	
01	289.20	86.38	116.73	225.53	88.95	128.19	514.73	175.33	244.92	934.98
02	631.92	171.68	147.86	280.41	112.57	215.79	912.33	284.24	363.64	1560.21
03	844.70	225.55	173.52	362.13	145.55	206.49	1206.84	371.10	380.00	1957.94
04	517.89	115.40	171.78	362.12	98.98	195.88	880.01	214.38	367.66	1462.06
05	599.05	196.51	200.86	381.28	102.71	161.58	980.33	299.21	362.44	1641.98
06	609.84	115.64	103.20	269.57	96.96	210.62	879.42	212.60	313.82	1405.84
07	712.06	141.53	153.05	259.93	158.96	146.24	971.98	300.49	299.29	1571.76
08	536.37	135.94	90.49	209.12	121.03	115.30	745.49	256.97	205.79	1208.25
09	366.68	92.54	71.35	239.11	82.11	97.49	605.79	174.65	168.85	949.29
10	393.25	114.39	83.25	228.19	76.99	116.82	621.44	191.38	200.08	1012.90
11	665.80	215.21	212.89	431.32	135.86	174.29	1097.12	351.07	387.18	1835.37
12	1237.38	273.19	197.64	542.72	186.43	234.46	1780.10	459.63	432.09	2671.82
13	253.19	68.92	99.86	174.48	65.18	79.17	427.67	134.10	179.02	740.80
14	457.51	116.50	157.10	302.09	166.17	219.38	759.60	282.67	376.48	1418.75
15	595.42	159.01	118.48	299.35	112.30	133.12	894.77	271.31	251.60	1417.68
<b>Citywide Total</b>	<b>8710.25</b>	<b>2228.40</b>	<b>2098.05</b>	<b>4567.37</b>	<b>1750.74</b>	<b>2434.82</b>	<b>13277.62</b>	<b>3979.14</b>	<b>4532.87</b>	<b>21789.63</b>

11/15/2018

\* The 21,789.63 figure includes all lane miles of asphalt overlay.

Good	Fair	Poor
61%	18%	21%