



December 15, 2017

Susan Bransen  
Executive Director  
California Transportation Commission  
1120 N Street, MS-52  
Sacramento, CA 95814

RE: Local Partnership Program Formulaic Program - San Francisco's  
Project Nominations and Documentation of Agreement between Taxing  
Authority and Implementing Agency

On behalf of the San Francisco County Transportation Authority (SFCTA) and San Francisco Public Works (SFPW), we would like to express our appreciation to the California Transportation Commission (CTC) for considering our project nominations to the Local Partnership Program (LPP) Formulaic Program. This cover letter serves as the agreement between SFCTA and SFPW to implement San Francisco's share of the LPP Formulaic Program.

The SFCTA administers Proposition K, a half-cent local sales tax program approved by San Francisco voters in November 2003, and Proposition AA, an additional \$10 annual vehicle registration fee approved by San Francisco voters in November 2010, both with revenues solely dedicated to fund transportation investments. On December 6, 2017, the CTC adopted the Cycle 1 LPP Formulaic Program funding share distribution for Fiscal Years (FYs) 2017/18 and 2018/19, and SFCTA's total funding share was determined to be \$2,106,000 for FY 2017/18 and \$2,083,000 for FY 2018/19.

SFPW, which will act as the implementing agency, routinely maintains over 900 miles of local streets to extend the useful life of pavement and provide mobility to motorists, cyclists, and pedestrians. On December 12, 2017, the SFCTA Board approved programming San Francisco's share of the LPP Formulaic Program for FYs 2017/18 and 2018/19 to the following two SFPW street resurfacing projects:

1. FY 2017/18: Parkmerced/Twin Peaks/Glen Park Residential Pavement Renovation Project (\$2,106,000)
2. FY 2018/19: Alemany Boulevard Pavement Renovation Project (\$2,083,000)

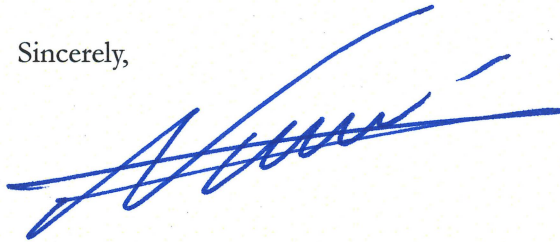
Both projects will provide critical improvements to San Francisco's local road system, improving both neighborhood streets and an important arterial for San Francisco's road network. For both projects, Proposition K funds are programmed to provide the required dollar for dollar local match.

As the implementing agency, SFPW assumes responsibility and accountability for the use and expenditure of program funds as established by the CTC in the LPP Guidelines adopted on October 18, 2017. In this capacity, SFPW will submit allocation requests to

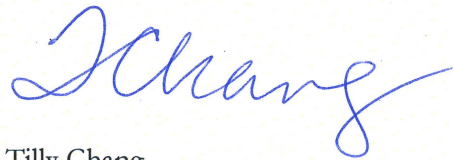
Caltrans during the fiscal year of project programming, will award contracts within 6 months of allocation of funds by the CTC, complete the project as proposed in the project nomination, and comply with reporting and accountability guidelines as established by the CTC and Caltrans.

Thank you for your consideration of our project nominations. If you have any questions about this request, please contact Anna LaForte, SFCTA Deputy Director for Policy and Programming, at 415-522-4805 or [anna.laforte@sfcta.org](mailto:anna.laforte@sfcta.org), or contact Rachel Alonso, San Francisco Public Works Transportation Finance Analyst, at 415-554-4139 or [rachel.alonso@sfdpw.org](mailto:rachel.alonso@sfdpw.org). We look forward to the advancing the first cycle of LPP programming and to working in partnership with the CTC to deliver the benefits of SB 1 to San Francisco residents and visitors.

Sincerely,



Mohammed Nuru  
Director  
San Francisco Public Works



Tilly Chang  
Executive Director  
San Francisco County Transportation Authority

Attachments:

1. Parkmerced/Twin Peaks/Glen Park Residential Pavement Renovation Project Application
2. Alemany Boulevard Pavement Renovation Project Application

cc: MEL, ALF, OQ, AS – SFCTA  
RA, PH – SFPW



# Parkmerced/Twin Peaks/ Glen Park Residential Street Resurfacing Project

SB1 Local Partnership Program Cycle 1

Fiscal Year 2017-2018

Formula Funds Application

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San Francisco Public Works  
December 2017

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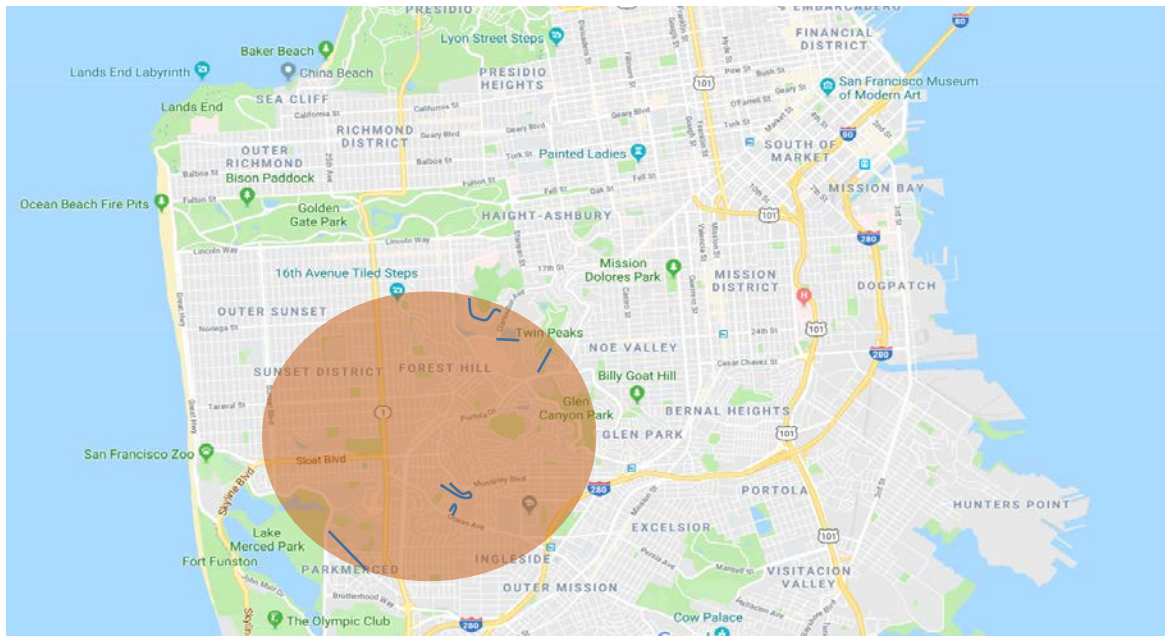
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## Basic Project Information

**Project Name:** Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing

**Project Description:** Street resurfacing of 2.8 miles of residential streets (forty-three blocks) in the Parkmerced, Twin Peaks, and Glen Park neighborhoods in San Francisco. The project consists of repairs to the road base, paving work, curb ramp construction, and sidewalk and curb repairs. This construction work will, in conjunction with San Francisco Public Works' asset management strategy, decrease the lifetime maintenance and repair costs, while providing a smoother and safer road for drivers, public transit riders, bicyclists, and pedestrians.

**Project Location:** The project will resurface the following residential street segments in southwest San Francisco: Clairview Court (Panorama Dr to End), Darien Way (Aptos Ave to Kenwood Way/Upland Dr), Dorado Terrace (Jules Ave/Ocean Ave to End), Font Boulevard (Juan Bautista Circle to Lake Merced Boulevard), Midcrest Way (Panorama Drive to End), Oak Park Drive (Clarendon Ave to End), Olympia Way (Panorama Dr to Clarendon Ave), San Aleso Ave (Monterrey Blvd to Upland Dr), and Upland Dr (Darien Way/Kenwood Way to San Benito Way).



**Project Phase:** Construction

**Fiscal Year of Programming:** 2017/18

**Total Project Cost:** \$4,900,000

**LPP Amount Requested:** \$2,106,000

**Local Match:** \$2,794,000 in Proposition K sales-tax funds

## Street Resurfacing Program Background

San Francisco Public Works (Public Works) is responsible for more than 900 miles of streets and roadways, comprising more than 12,800 street segments and blocks. The Public Works Street Resurfacing Program (Street Resurfacing) maintains deteriorated City streets through various treatment types, such as grinding and paving from curb to curb and pavement preservation. Roadway surfaces must be routinely maintained, renewed, and resurfaced to extend the service life of the pavement.



Street Resurfacing inspects each of the City’s blocks and assigns a Pavement Condition Index (PCI) score every two years. The PCI score ranges from 0 (“Very Poor”) to 100 (“Excellent”). These scores assist Public Works with implementing the pavement management strategy of preserving streets by applying the right treatment to the right roadway at the right time. Streets are prioritized and selected based on PCI scores as well as the presence of transit and bicycle routes, scheduled street clearance, and geographic equity.

In San Francisco, the goal of the Street Resurfacing Program is to maximize every dollar received. Street Resurfacing has adopted asset management best practices to minimize life cycle costs. A street’s typical life cycle is approximately 30 years, but can vary depending on usage and other factors. Best practices in street management recommend preserving streets before they become more costly to fix later. This cycle keeps San Francisco streets at a higher lifetime average PCI score, while reducing reconstruction costs.

Since 2011, Street Resurfacing has performed over 110 joint and coordinated projects with public and private agencies. Public Works maintains regular communication with other public and private agencies and tracks city projects to determine whether paving should join or coordinate on a project with other agencies. Coordinating street resurfacing work with other major San Francisco projects maximizes the efficiency and effectiveness of public dollars, while minimizing disruption to San Francisco residents, visitors, and businesses.



In the spirit of coordinating projects, Street Resurfacing also helps build curb ramps in San Francisco. The **American Disabilities Act of 1990 (ADA)** requires that the City build out curb ramps to ensure accessibility on the public right-of-way. San Francisco is committed to providing full and fair access to all city streets and complying with ADA accessibility requirements. The City’s 2008 update of the **ADA Transition Plan for Curb Ramps and Sidewalks** sets an aggressive goal of putting a curb ramp at every street corner in the City. In accordance with this aggressive goal, Street Resurfacing has constructed over 5,000 curb ramps between 2013 and 2016.

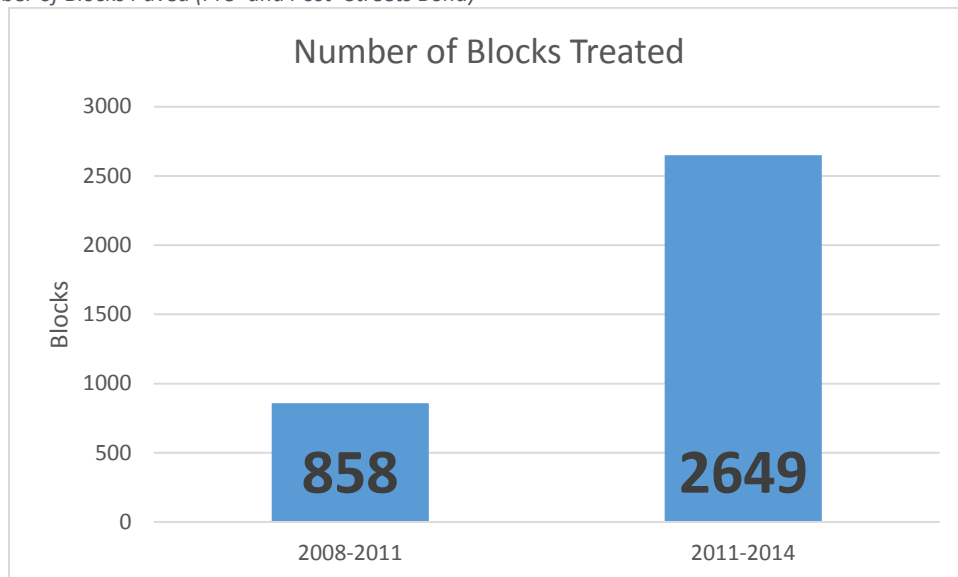
### San Francisco’s Street Resurfacing Needs

Well maintained streets provide multi-modal benefits. Motorists, cyclists, and transit benefit from smoother and safer paved streets. Public transportation and the movement of goods and services would not be possible without a network of even and dependable streets.

In 2011, San Francisco voters overwhelmingly approved the **2011 Road Repaving and Street Safety Bond (Streets Bond)** and set a citywide target PCI score of 70. Over 68% of San Francisco voters approved the proposition. Since 2011, the PCI goal has been reiterated in the City’s **10 Year Capital Plan**.

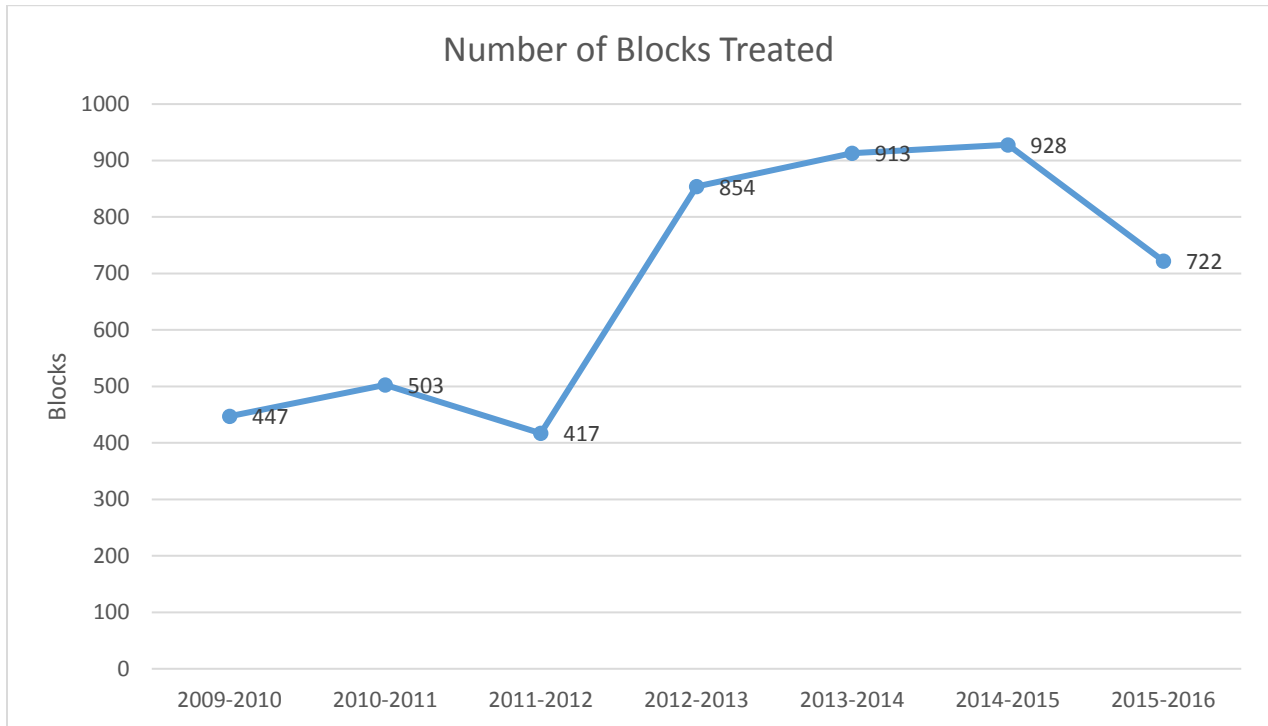
The Street Resurfacing program’s use of Streets Bond funds proved that the number of blocks treated each year is directly tied to funding. Street Resurfacing has maximized the Streets Bond funds and, in the three years after the Streets Bond passed, the number of blocks treated in San Francisco has tripled (see Figure 1). Since 2011, Street Resurfacing has treated a total of 4,299 block (see Figure 2).

Figure 1: Number of Blocks Paved (Pre- and Post- Streets Bond)



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Figure 2: Annual Number of Blocks Treated Since Fiscal Year 2009-2010



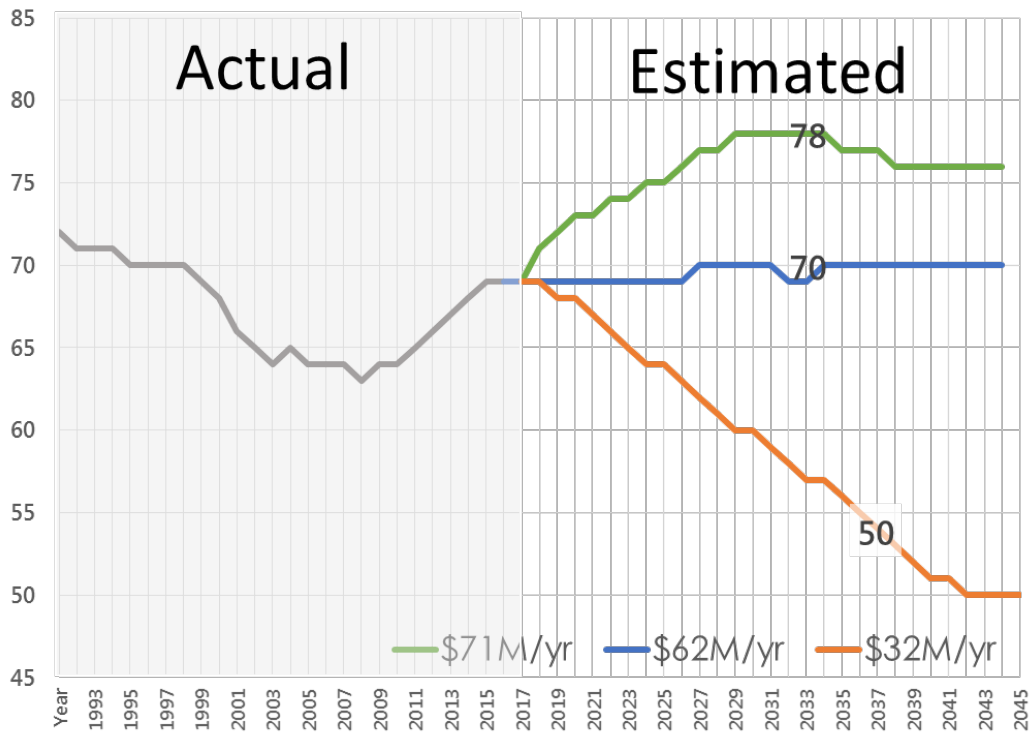
The voter approved target PCI score of 70 aims to make San Francisco streets “Good,” by Fiscal Year 2025. As of December 2016, the average citywide PCI score is 69. This PCI score has increased from the historical low of 63 in 2009, with the bulk of the improvements occurring between 2011 and 2016, largely because of the dedicated funding stream from the Streets Bond during this five-year period.

Public Works has made great strides in improving the City’s network PCI score, but with the depletion of Streets Bond funds, dependable and sufficient funding for the program does not currently exist. With current levels of funding, San Francisco can expect the average citywide PCI score to drop to 62 by 2027. A score of 62 not only erases all improvements to the citywide network, but also is the lowest average network score San Francisco streets have ever received. If this funding level continues, San Francisco streets can expect to fall to an average PCI score of 50 by 2045 (see Figure 3). Fully funding the Street Resurfacing Program is necessary to sustain the improvements made since 2011 and reach the target PCI score of 70.



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Figure 3: PCI Outcomes from Different Budget Scenarios



As of December 2016, approximately 40% of San Francisco streets are still considered “At-Risk,” “Poor,” or “Very Poor.” These streets are quickly deteriorating and require larger scale maintenance and repair. Work on “At-Risk” and worse streets has significantly higher costs and is more labor-intensive than maintaining “Good” and “Excellent” streets. In order to continue to improve and prevent a drop in the network PCI score, Street Resurfacing must focus repaving efforts on San Francisco’s “At-Risk” and worse streets.

Table 1: Cost of Per Curb Repair Based on PCI Score (as of December 2016)

PCI Score	Rating	Cost of Repair (Per Block)	Treatment Method
85-100	Excellent		No treatment
70-84	Good	\$35k	Preservation
50-69	At-Risk	\$143k	Resurfacing
25-49	Poor	\$161k	Resurfacing with base
0-24	Very Poor	\$261k	Reconstruction

SF Goal: PCI of 70 →

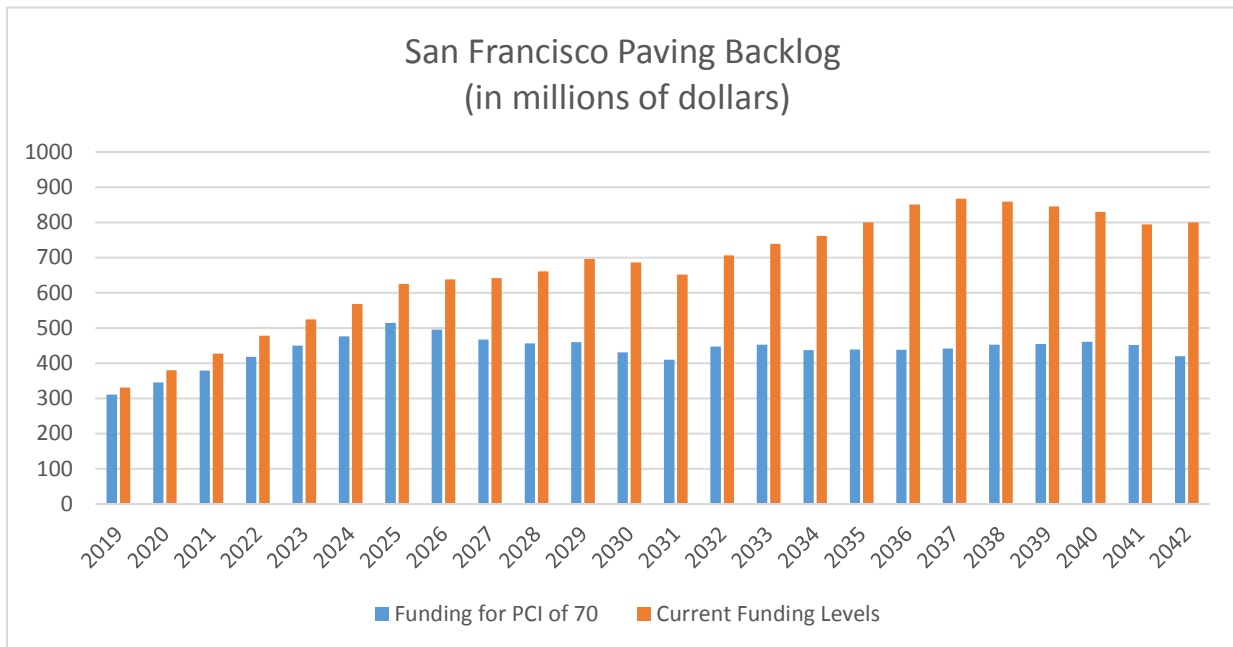
As of December 2016: PCI of 69 →

The quality of the City’s street network affects the cost burden that San Francisco residents will bear. These costs are incurred as personal vehicle maintenance and repair costs, as well as the tax burden needed to upkeep San Francisco roads. As the PCI increases, the cost of maintenance and repair of local roads drastically decreases. According to the costs outlined in Table 2, a PCI score 70 will reduce the maintenance and repair costs of San Francisco streets from \$143,000 per block to \$35,000 per block (see Table 1).

Currently, residential streets make up two-thirds of San Francisco’s street network. Street Resurfacing has previously focused on repaving large profile arterials and corridors, which, because of the size of these streets, has greatly boosted the City’s PCI score. However, with many of the City’s major streets in a state of good repair, in order to hit the City’s target PCI score of 70, Street Resurfacing must receive funding to focus on the many, smaller residential street segments that are in great need of maintenance and repair.

As San Francisco’s network of streets and roads deteriorate, maintaining the citywide network becomes more expensive, and San Francisco’s paving needs increase. More expensive repairs mean that more financial and labor resources are needed to repave the City’s streets. Street Resurfacing will need to spend more time and money to pave less streets. As a result, the citywide paving backlog grows (see Figure 4).

Figure 4: Backlog Trends Based on Funding Levels



The backlog represents streets within the City’s network that require maintenance and repair. However, because of prioritization and resource scarcity, Street Resurfacing lacks the capacity

to work on these streets now. Streets in the City’s backlog continue to deteriorate; the longer the streets stay in the backlog, the more expensive they become to repair and maintain.

Table 2: Backlog Growth Based on Funding Levels

	PCI of 70	Current Funding Levels	PCI in High 70s.
<b>Backlog Growth</b>	37%	161%	-15%
<b>Backlog in 2045</b>	\$420 mil	\$800 mil	\$260 mil

Currently, the San Francisco streets and roads network has a backlog of \$307 million. Based on September 2017 estimates, if the City does not receive additional funding, San Francisco can expect to see a backlog of \$800 million by 2045. If San Francisco secures funding to reach the target PCI score of 70 by 2025, the city’s backlog will still grow, but only by 37%. In this scenario, the backlog will be \$420 million by 2045. If the City was interested in reducing the backlog, funding to reach and maintain a PCI score in the high 70s is needed (see Table 2).

Smoother streets also save individual drivers from paying significant personal vehicle repair and maintenance costs. According to the **American Society of Civil Engineers 2017 Infrastructure Report Card**, deteriorating roads cost the average driver approximately \$800 in annual vehicle repair fees.<sup>1</sup>

## Project Information

Public Works requests Local Partnership Program (LPP) formula funds for the construction phase of the pavement portion of the Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing Project. The construction portion of the project will cost \$4,900,000. Street Resurfacing is requesting \$2,106,000 in Fiscal Year 2017-2018 LPP funds. The LPP request will be matched with \$2,794,000 in Proposition K Sales Tax funds. For further information on project costs, please refer to the attached Project Funding Plan (Attachment A) and Project Cost Estimate (Attachment B).

The project will resurface forty-three (43) blocks on 2.8 miles of residential streets. The project will include the following street segments:

- Clairview Court between Panorama Drive to End (0.1 miles)

<sup>1</sup> American Society of Civil Engineers, 2017 Infrastructure Report Card, accessed 2017, November 22.  
<https://www.infrastructurereportcard.org/infrastructure-super-map/>

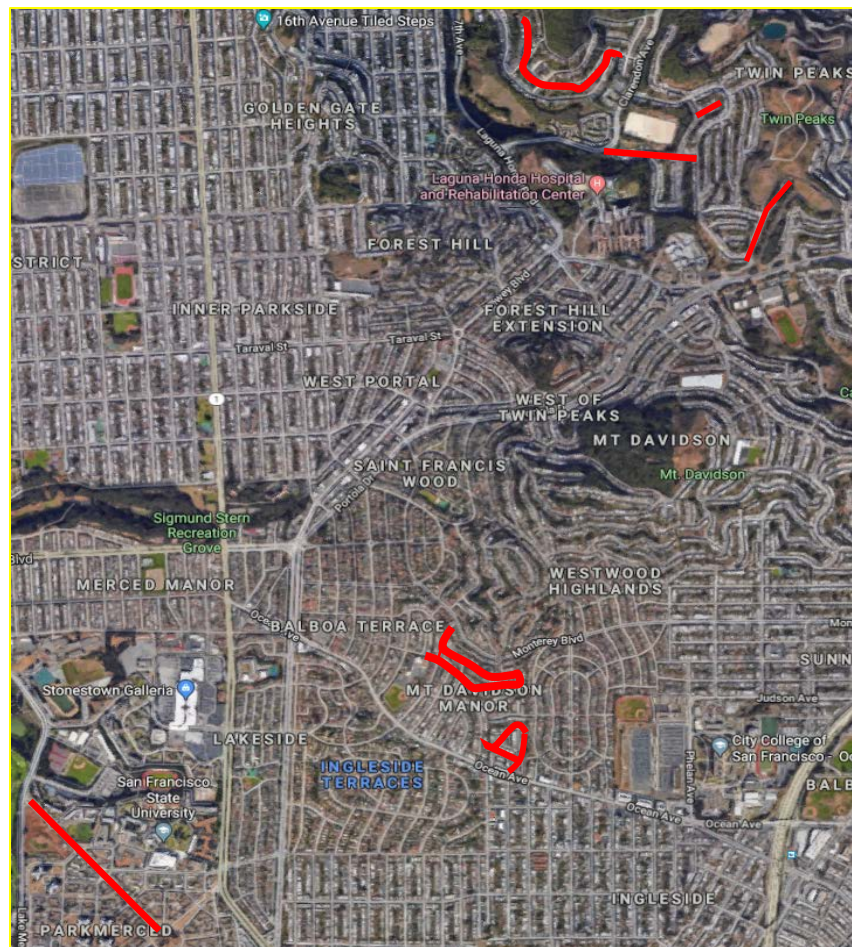
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- Darien Way between Aptos Avenue to Kenwood Way and Upland Drive (0.4 miles)
- Dorado Terrace between Jules Avenue and Ocean Avenue to End (0.3 miles)
- Font Boulevard between Juan Bautista Circle to Lake Merced Boulevard (0.5 miles)
- Midcrest Way between Panorama Drive to End (0.2 miles)
- Oak Park Drive between Clarendon Avenue to End (0.5 miles)
- Olympia Way between Panorama Drive to Clarendon Avenue (0.2 miles)
- San Aleso Avenue between Monterey Blvd to Upland Drive (0.2 miles)
- Upland Drive between Darien Way and Kenwood Way to San Benito Way (0.4 miles)

These segments are located in southwest San Francisco, in the vicinity of the city’s many residential neighborhoods, such as the Parkmerced, Twin Peaks, and Glen Park.

The segments include streets with proximity to important neighborhood destinations, such as San Francisco State University, Laguna Honda Hospital and Rehabilitation Center. The segments also include important connections to many neighborhood schools, parks, and shopping centers.

Figure 5: Project Area Map



Clairview Court, between Panorama Drive to End

Clairview Court is located 0.5 mile away from the Twin Peaks Park, a popular tourist destination that provides panoramic views of San Francisco. Clairview Court is also located 0.4 mile from the Sutro Reservoir, which includes a playground and picnic area.

Darien Way, between Aptos Avenue to Kenwood Way and Upland Drive

This segment located right outside the Aptos Middle School, which has an enrollment of approximately 1,000 students, and Aptos Park, a 4.81 acre urban playground located on Ocean Avenue, less than a block away from the segments' Upland Drive and San Aleso Avenue.<sup>2 3</sup>

Dorado Terrace, between Jules Avenue and Ocean Avenue to End

Dorado Terrace is one of the side streets off of the Ocean Avenue Corridor. The street is populated entirely of residential homes, which are blocks away from Ocean Avenue's Target, 24 Hour Fitness, and other retailers and restaurants.

*Figure 6: Condition of Project (Dorado Terrace)*



<sup>2</sup> San Francisco Unified School District, Aptos Middle School, 2017, accessed 2017 December 6.  
<http://www.sfusd.edu/en/schools/school-information/aptos.html>

<sup>3</sup> San Francisco Recreation and Parks Department, Aptos Playground, 2017, accessed 2017 December 6.  
<http://sfrecpark.org/destination/aptos-playground/>

Font Boulevard between Juan Bautista Circle to Lake Merced Boulevard

Font Boulevard runs along the southwest border of San Francisco State University. Motor vehicles share the road with Muni bus line 57, which has 6 stops within the project limit. Font Boulevard is also located 0.7 miles away from Lake Merced Park, nature and recreation park in southwest San Francisco.

Midcrest Way, between Panorama Drive to End

Midcrest Way is a residential street located at the foot of the Twin Peaks Park. The residential street is located within 0.2 miles of the Ruth Asawa San Francisco School of the Arts, a public arts focused high school with an annual enrollment of approximately 600 students.<sup>4</sup>

Oak Park Drive, between Clarendon Avenue to End

Oak Park Drive is predominantly residential. However, the street is located at the foot of the Mount Sutro Open Space Reserve. The trailhead located within 0.2 miles from Oak Park Drive. Oak Park Drive is also located 0.3 miles from the Clarendon Alternative Elementary School.

Olympia Way, between Panorama Drive to Clarendon Avenue

This segment located on the southern border of the Sutro Reservoir. San Francisco Municipal Rail (Muni) bus line 36 runs along the segment and has four bus stops within the project limits. Olympia Way is also located 0.2 miles away from the Clarendon Alternative Elementary School, which has an annual enrollment of approximately 550 students.<sup>5</sup>

Figure 7: Current Project Conditions (Olympia Way)



<sup>4</sup> San Francisco Unified School District, Asawa San Francisco School of the Arts, 2017, accessed 2017 December 6. <http://www.sfusd.edu/en/schools/school-information/ruth-asawa-san-francisco-school-of-the-arts.html>

<sup>5</sup> San Francisco Unified School District, Clarendon Alternative Elementary School, 2017, accessed 2017 December 6. <http://www.sfusd.edu/en/schools/school-information/clarendon-school.html>

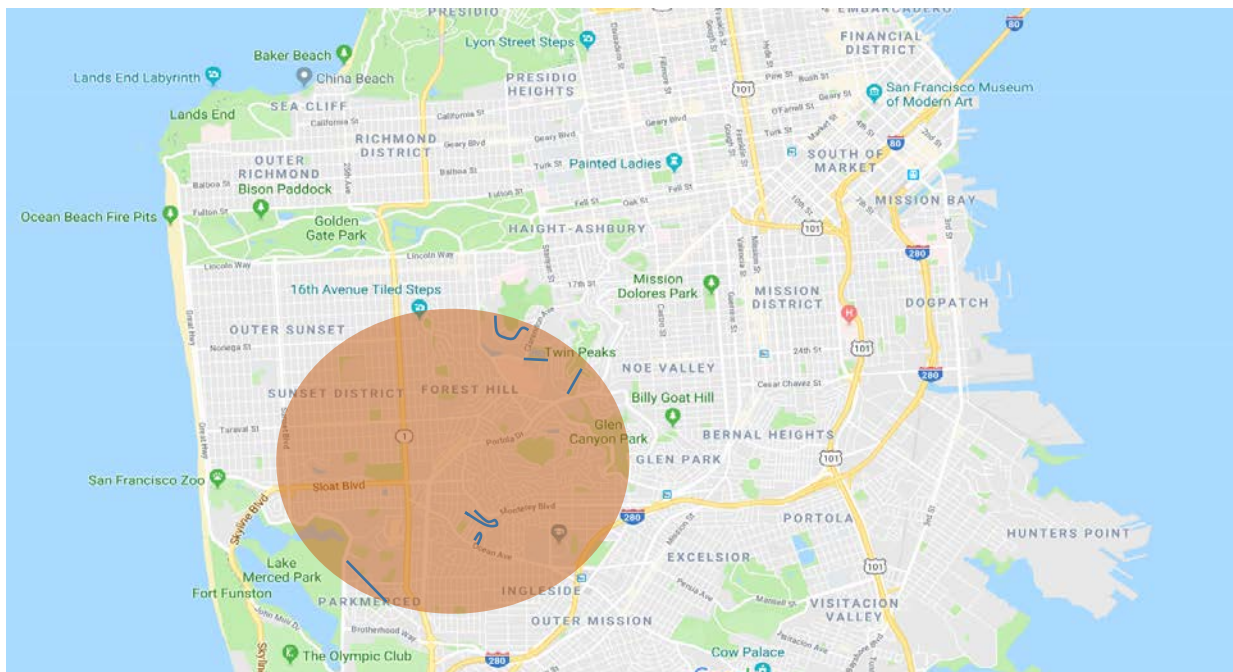
San Aleso Avenue, between Monterey Blvd to Upland Drive

This segment is located right outside the Aptos Middle School, which has an enrollment of approximately 1,000 students, and Aptos Park, a 4.81 acre urban playground located on Ocean Avenue, less than a block away from the segments’ Upland Drive and San Aleso Avenue.<sup>6 7</sup>

Upland Drive, between Darien Way and Kenwood Way to San Benito Way

This segment is located right outside the Aptos Middle School, which has an enrollment of approximately 1,000 students, and Aptos Park, a 4.81 acre urban playground located on Ocean Avenue, less than a block away from the segments’ Upland Drive and San Aleso Avenue.<sup>8 9</sup>

Figure 8: Project Location



For further information on the project location, please refer to the attached Project Map (Attachment C).

Currently, the average PCI score within the project limits is in the mid 50’s, making the roads “At-Risk.” This project will boost the PCI score to 100, and, subsequently, help boost the City’s

<sup>6</sup> San Francisco Unified School District, Aptos Middle School, 2017, accessed 2017 December 6.  
<http://www.sfusd.edu/en/schools/school-information/aptos.html>

<sup>7</sup> San Francisco Recreation and Parks Department, Aptos Playground, 2017, accessed 2017 December 6.  
<http://sfrecpark.org/destination/aptos-playground/>

<sup>8</sup> San Francisco Unified School District, Aptos Middle School, 2017, accessed 2017 December 6.  
<http://www.sfusd.edu/en/schools/school-information/aptos.html>

<sup>9</sup>San Francisco Recreation and Parks Department, Aptos Playground, 2017, accessed 2017 December 6.  
<http://sfrecpark.org/destination/aptos-playground/>

network PCI. This construction work will, in conjunction with Street Resurfacing’s asset management strategy, decrease the lifetime maintenance and repair costs, while providing a smoother and safer road for drivers, public transit riders, and bicyclists.

The project will consist of repairs to the road base, paving work, curb ramp construction, and sidewalk and curb repairs.

The project is currently in the design phase. As of November 2017, design is 25% completed. The project is scheduled to start construction in Fall 2018 and complete construction in Spring 2020. For further project schedule information, please refer to the attached Project Schedule (Attachment D).

### Anticipated Benefits from the Project

The Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing Project will provide a multitude of benefits both to the citywide population and to the project’s neighboring communities. This application does not use the recommended California Department of Transportation Life-Cycle benefit-Cost Analysis Model because the model proved to have limitations when calculating local streets and roads related benefits. The model uses the International Roughness Index (IRI) to measure pavement condition, while Street Resurfacing uses Pavement Condition Index (PCI). Public Works does not currently have the ability to convert PCI into IRI. Instead, benefits in this application are based on research and literature review.

### Monetary Benefits

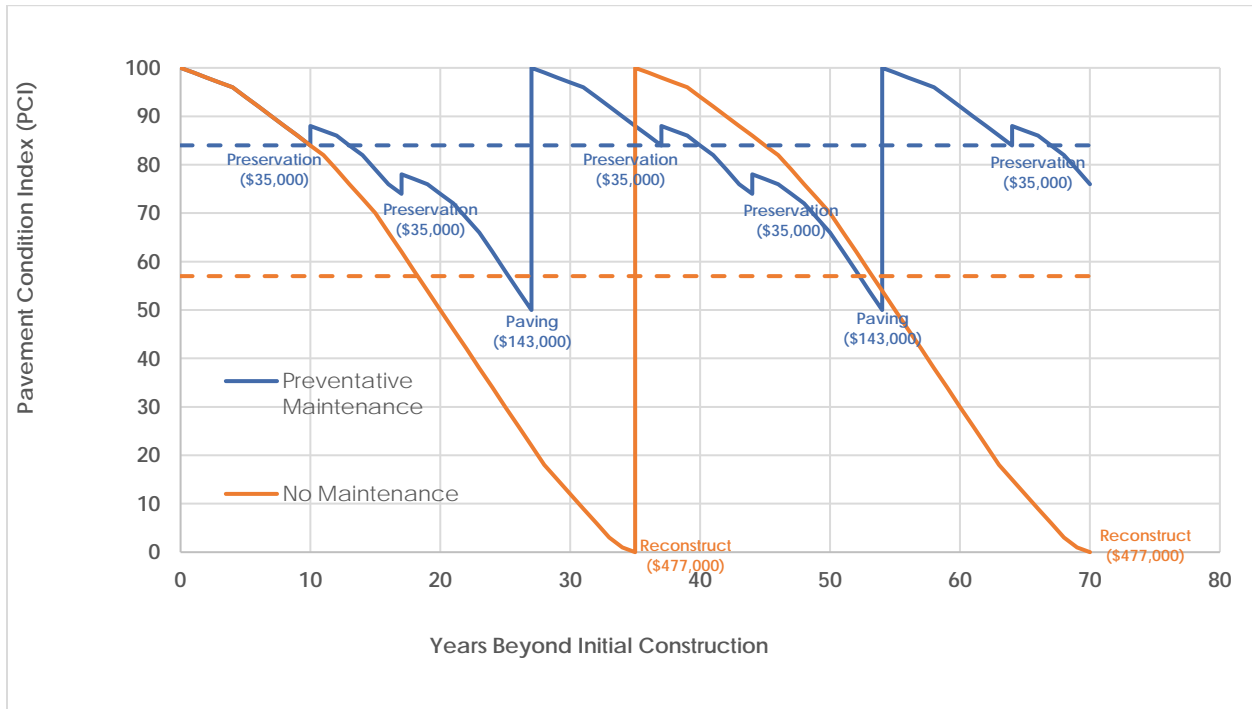
Street Resurfacing’s strategy is to perform preservation treatments approximately every 10 years, with a paving treatment approximately every 30 years. The segments in this project are currently in need of paving treatment to stay on track with asset management best practices. In comparison, if the nine segments in this project were to follow a traditional reconstruction cycle, with no maintenance, the streets would continue to deteriorate, making them substantially more expensive to fix at a later time.

As shown in Figure 8, a preserve-and-pave cycle is more cost effective than reconstructing streets every 30 years. Additionally, the average PCI over the life of streets, using this best practices strategy, can be as high as 84 (dotted blue line in Figure 8); comparatively, using the traditional reconstruction life cycle, the average PCI of a streets is estimated to be only in the mid-50s (orange dotted line in Figure 8). Using the Street Resurfacing’s adopted strategy, maintenance and repair costs, the backlog, and personal motor vehicle damages are expected to decrease.



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Figure 9: “Traditional” vs. “Best Practices” Asset Management Cycle



If a preserve-and-pave cycle is followed (“Preventative Maintenance” line in Figure 8), between Year 0 and Year 40, the Parkmerced/Twin Peaks/Glen Park Project could potentially save the City approximately \$9.8 million in maintenance and repair costs (see Table 3 for calculations). In order for these savings to be realized, asset management best practices must be continuously used.

Table 3: Citywide Cost Savings

Cost Savings from Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing Project (Year 0-40)		
	Best Practices	Traditional
Blocks	43	43
Cost of Repair (Per Block)	\$248,000	\$477,000
Cost of Repair (Total)	\$10,664,000	\$20,511,000
<b>Savings for the City:</b>	<b>\$9,847,000</b>	

Furthermore, Street resurfacing work on residential streets, such as the segments included in this project, is more cost effective than the equivalent work on major arterials and corridors. Residential streets are primarily used by local residents, and therefore, residential street projects are less complicated, require less traffic control expenses, and can be completed faster. These factors add up to lower overall project costs.

## Climate Impacts

Research shows that smoother, well-paved streets have associated positive climate impacts. Street Resurfacing incorporates Reclaimed Asphalt Paving (RAP), a sustainable pavement strategy, in the paving process. San Francisco includes, at a minimum, 15% recycled asphalt in all paving projects. Using RAP, Street Resurfacing uses less natural resources and reduces the amount of waste diverted to landfills. According to a New Civil Engineers report, every lane-mile recycled is the equivalent of removing 11 cars off the road for a year, reducing overall greenhouse gas emissions.<sup>10</sup> Based on this argument, this project, which will repave 2.8 miles of two lane residential streets, has the potential to reduce greenhouse gases by the equivalent of the emissions from 60 cars in a year.

According to the Concrete Sustainability Hub at Massachusetts Institute of Technology, “rougher roads lead to a greater fuel consumption [...] having a potentially huge impact when aggregated.”<sup>11</sup> The National Cooperative Highway Research Program found that vehicles driving on rough, damaged, unpaved streets can have up to almost 5% increase in fuel consumption.<sup>12</sup> The Federal Highway Administration links the increase in fuel consumption to the energy needed for a vehicle to stabilize itself while sustaining the speed limit on rough and bumpy roads.<sup>13</sup>

The project will greatly improve the condition of residential streets in the Parkmerced, Twin Peaks and Glen Park neighborhoods. Drivers on the segments after the completion of the project will experience smoother streets; drivers will no longer require the use of the extra 5% in fuel consumption to stabilize their vehicles.

## Land use, Housing Planning, Transportation Goals

The Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing Project also aligns with many of the City’s land use and transportation goals.

According to the **San Francisco General Plan**, a priority of the City’s streets and roadways is to accommodate human movement and join the districts of the city.<sup>14</sup> Residential streets are smaller and less publicly visible, but these streets are important connections for San Francisco’s

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<sup>10</sup> New Civil Engineers, Final Report: California Statewide Local Street and Roads Needs Assessment, 2016 October, pp. 23-24, accessed 2017 November 30. <http://www.savecaliforniastreet.org/wp-content/uploads/2016/10/2016-CA-Statewide-Local-Streets-and-Roads-Needs-Assessment-Final-Report.pdf>

<sup>11</sup> Greene, Suzanne, et al. Pavement Roughness and Fuel Consumption, Massachusetts Institute of Technology Concrete Sustainability Hub, 2013 August, pp. 11-15, accessed 2017 November 30. [https://cshub.mit.edu/sites/default/files/documents/PVIRoughness\\_v15.pdf](https://cshub.mit.edu/sites/default/files/documents/PVIRoughness_v15.pdf)

<sup>12</sup> Chatti, Karim and Imen Zaabar, National Cooperative Highway Research Program Report 720: Estimating the Effects of Pavement Condition on Vehicle Operating Costs, Transportation Research Board, 2012, pp. 19-23, accessed 2017 November 30. <https://www.nap.edu/read/22808/chapter/4#21>

<sup>13</sup> U.S. Department of Transportation Federal Highway Administration, Pavements, 2017 June 27, accessed 2017 November 30. [https://www.fhwa.dot.gov/pavement/sustainability/articles/vehicle\\_fuel.cfm](https://www.fhwa.dot.gov/pavement/sustainability/articles/vehicle_fuel.cfm)

<sup>14</sup> San Francisco Planning Department, San Francisco General Plan: Urban Design Element, amended 2010, December 7, accessed 2017 November 30. [http://generalplan.sfplanning.org/I5\\_Urban\\_Design.htm](http://generalplan.sfplanning.org/I5_Urban_Design.htm)

neighborhoods. The different project segments are located near major destination points such as the Twin Peaks Park, Lake Merced Park, and San Francisco State University, all important locations for residents and visitors. These segments are also located near major commercial corridors, such as Ocean Avenue. The streets are also on the path of travel for Muni buses. Having well paved street segments will ensure that travel through these neighborhoods are safe and reliable for motor vehicles and transit.

The project also falls in line with infrastructure investment goals outlined in **Plan Bay Area 2040**. The plan prioritizes maintaining San Francisco Bay Area’s local streets and roads and stresses the importance of improving pavement condition in the region.<sup>15</sup> The completion of the Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing Project will improve San Francisco’s network PCI score, as well as the Bay Area regional network PCI score.

## Conclusion

The funding for the Parkmerced/Twin Peaks/ Glen Park Residential Street Resurfacing Project will help deliver a project with wide ranging benefits. The project will help boost San Francisco’s network PCI score continuing the will San Francisco voters established in the **2011 Streets Bond** and **10 Year Capital Plan**, while providing more safe and reliable roadways for multi-modal transportation. Repaving the segments in these projects will significantly reduce life cycle costs, freeing up funds and capacity for the Street Resurfacing Program to work on projects in the City’s growing backlog.

With a \$4.9 million investment in this project and an adherence to the best practices asset management strategy, this project has the potential to generate almost \$10 million (realized over in the 40 years after construction) in maintenance and repair cost savings to the City. With the addition of greenhouse gas emission reductions and increased neighborhood connections, the benefits of this project greatly outweigh the requested investment.

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<sup>15</sup> Metropolitan Transportation Commission, Plan Bay Area 2040, adopted 2017 July 26, accessed 2017 November 30.  
<http://2040.planbayarea.org/strategies-and-performance>

## Attachment A: Funding Plan

Phase	Fund Source	Fund Source Status	Fiscal Year Funds Programmed	Total	Percent of Total
Construction	LPP Funds	Planned	17/18	\$2,106,000	43%
Construction	Prop K	Programmed	17/18	\$2,794,000	57%
<b>Total Construction Phase Funding</b>				<b>\$4,900,000</b>	<b>100%</b>

Prop K funds for this project were programmed by the San Francisco County Transportation Authority Board on December 12, 2017, through resolution 2018-029.

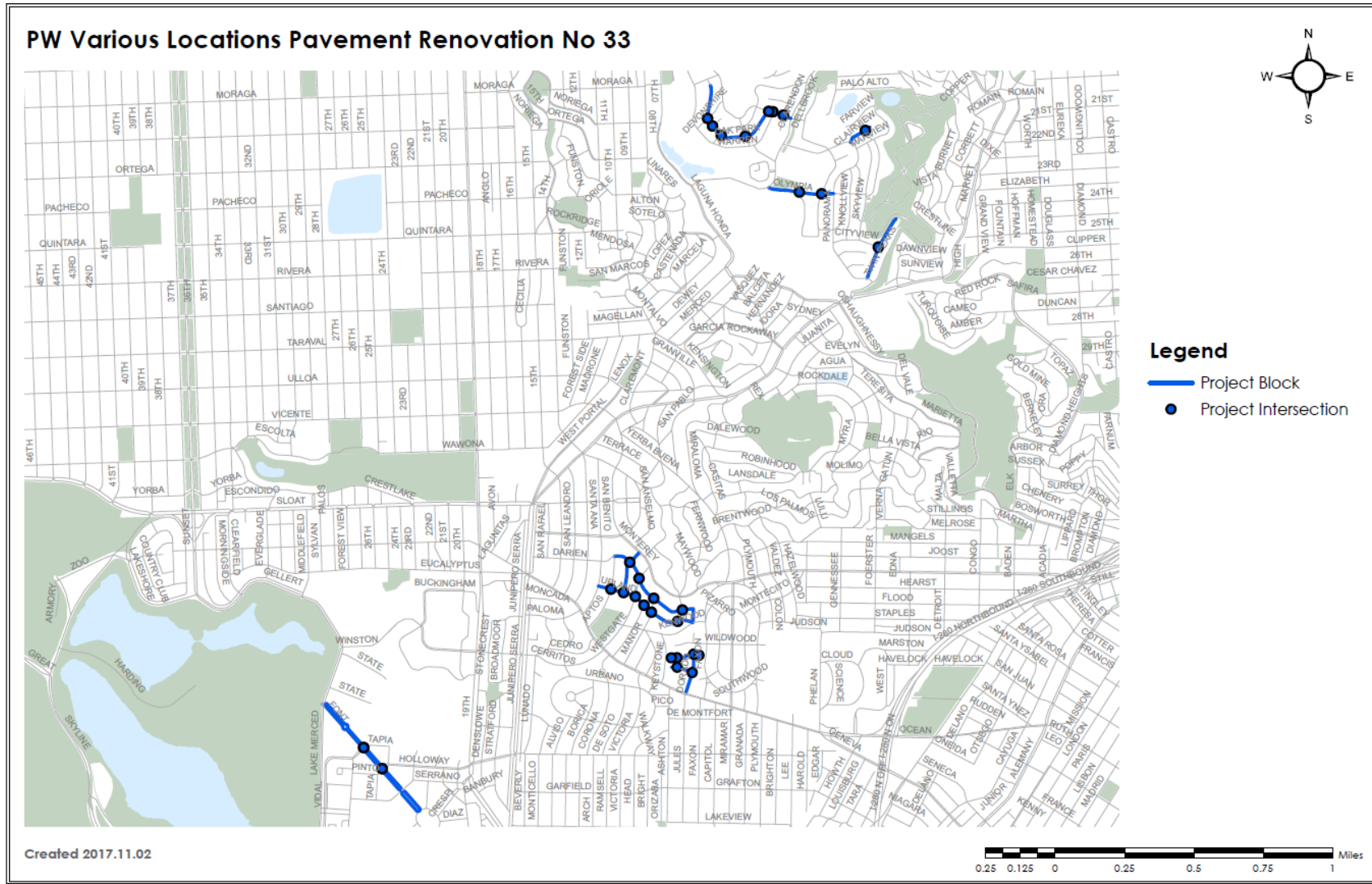
Attachment B: Cost Estimate

Parkmerced/Twin Peaks/ Glen Park Residential Street Resurfacing Project Cost Estimate				
Item	Item Description	Estimated Quantity	Unit*	Cost
1	Traffic Routing Work	---	LS	\$320,000.00
2	Grinding	750,000	SF	\$830,000
3	Hot Mix Asphalt	9,500	TON	\$1,300,000
4	Concrete Base 8-Inch	68,000	SF	\$890,000
5	Concrete Sidewalk	7,600	SF	\$95,000
6	Concrete Curb And Concrete Gutter	1,900	LF	\$110,000
7	Concrete Curb Ramp With Detectable Tiles	80	EA	\$350,000
8	Adjust City-Owned Castings	80	EA	\$32,000
9	Adjust City-Owned Hydrant And Water Main Valve Castings	150	EA	\$23,000
10	City-Owned Pull Box	40	EA	\$21,000
11	Temporary 4-Inch White/Yellow Striping	49,000	LF	\$74,000
Construction :				\$4,045,000
Construction Contingency:				\$405,000
Construction Management:				\$450,000
TOTAL :				\$4,900,000

This cost estimate is provided by the San Francisco Public Works Street Resurfacing Program. This is an order of magnitude estimate and will be updated as design comes closer to completion.

San Francisco Public Works  
Local Partnership Program Cycle 1 – Formula Funds  
Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing Project

Attachment C: Project Map



## Attachment D: Project Schedule

Project Delivery Milestones	Status	Work	Start Date		End Date	
Phase	% Complete	In-house - Contracted - Both	Month	Year	Month	Year
Planning/Conceptual Engineering (30%)						
Environmental Studies (PA&ED)						
Design Engineering (PS&E)	85%	Both	August	2016	April	2018
R/W Activities/Acquisition						
Advertise Construction	0%	N/A	July	2018	N/A	N/A
Start Construction (e.g. Award Contract)	0%	Contracted	November	2018	N/A	N/A
Start Procurement (e.g. rolling stock)						
Project Completion (i.e. Open for Use)	N/A	N/A	N/A	N/A	May	2020

## PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2017)

General Instructions

Amendment (Existing Project) No					Date:	12/14/17		
District		EA	Project ID		PPNO	MPO ID		Alt Proj. ID
04								
County	Route/Corridor		PM Bk	PM Ahd	Project Sponsor/Lead Agency			
SF	Residential Streets				San Francisco Public Works			
					MPO	Element		
					MTC	Local Assistance		
Project Manager/Contact			Phone		E-mail Address			
Rachel Alonso			415-554-4139		<a href="mailto:rachel.alonso@sfdpw.org">rachel.alonso@sfdpw.org</a>			
<b>Project Title</b>								
Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing								
<b>Location (Project Limits), Description ( Scope of Work)</b>								
Street resurfacing of 2.8 miles of residential streets (forty-three blocks) in the Parkmerced, Twin Peaks, and Glen Park neighborhoods in San Francisco. The project consists of repairs to the road base, paving work, curb ramp construction, and sidewalk and curb repairs. The project will resurface the following segments: Clairview Court (Panorama Dr to End), Darien Way (Aptos Ave to Kenwood Way/Upland Dr), Dorado Terrace (Jules Ave/Ocean Ave to End), Font Boulevard (Juan Bautista Circle to Lake Merced Boulevard), Midcrest Way (Panorama Drive to End), Oak Park Drive (Clarendon Ave to End), Olympia Way (Panorama Dr to Clarendon Ave), San Aleso Ave (Monterrey Blvd to Upland Dr), and Upland Dr (Darien Way/Kenwood Way to San Benito Way).								
<b>Component</b>		<b>Implementing Agency</b>						
PA&ED		San Francisco Public Works						
PS&E		San Francisco Public Works						
Right of Way		Not Applicable						
Construction		San Francisco Public Works						
<b>Legislative Districts</b>								
Assembly:	17,19		Senate:	11		Congressional:	12	
<b>Project Benefits</b>								
This construction work will, in conjunction with San Francisco Public Works' asset management strategy, decrease the lifetime maintenance and repair costs, while providing a smoother and safer road for drivers, public transit riders, bicyclists, and pedestrians. The project will improve neighborhood connections within the city, potentially reduce greenhouse gas emissions, and support San Francisco's efforts to ensure accessibility on the public right-of-way.								
<b>Purpose and Need</b>								
The quality of the City's street network affects the cost burden that San Francisco residents will bear. Currently, residential streets make up two-thirds of San Francisco's street network. In order to hit the City's target Pavement Condition Index (PCI) score of 70, Street Resurfacing must focus on the many, smaller residential street segments that are in great need of maintenance and repair. The average PCI score within the project limits is in the mid 50's ("At-Risk").								
<b>Category</b>			<b>Outputs/Outcomes</b>			<b>Unit</b>	<b>Total</b>	
Local streets and roads			Local road lane-miles rehabilitated			Miles	5.6	
ADA Improvements Yes			Bike/Ped Improvements Yes			Reversible Lane analysis Y/N		
Includes Sustainable Communities Strategy Goals Yes					Reduces Greenhouse Gas Emissions Yes			
<b>Project Milestone</b>						<b>Existing</b>	<b>Proposed</b>	
Project Study Report Approved						N/A		
Begin Environmental (PA&ED) Phase							N/A	
Circulate Draft Environmental Document				<b>Document Type</b>			N/A	
Draft Project Report							N/A	
End Environmental Phase (PA&ED Milestone)							N/A	
Begin Design (PS&E) Phase							08/01/16	
End Design Phase (Ready to List for Advertisement Milestone)							04/01/18	
Begin Right of Way Phase							N/A	
End Right of Way Phase (Right of Way Certification Milestone)							N/A	
Begin Construction Phase (Contract Award Milestone)							11/01/18	
End Construction Phase (Construction Contract Acceptance Milestone)							05/01/20	
Begin Closeout Phase							11/01/20	
End Closeout Phase (Closeout Report)							11/01/21	

**ADA Notice**

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2017)

Date: 12/14/17

District	County	Route	EA	Project ID	PPNO	Alt Proj. ID
04	SF	Residential				
<b>Project Title:</b> Parkmerced/Twin Peaks/Glen Park Residential Street Resurfacing						

Existing Total Project Cost (\$1,000s)									Implementing Agency
Component	Prior	17/18	18/19	19/20	20/21	21/22	22/23+	Total	
E&P (PA&ED)									San Francisco Public Works
PS&E									San Francisco Public Works
R/W SUP (CT)									Not Applicable
CON SUP (CT)									San Francisco Public Works
R/W									Not Applicable
CON									San Francisco Public Works
<b>TOTAL</b>									
Proposed Total Project Cost (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			4,900					4,900	
<b>TOTAL</b>			4,900					4,900	

Fund No. 1:	LPP Cycle 1 Formula Fund (FY 17/18 Funds)								Program Code
Existing Funding (\$1,000s)									Funding Agency
Component	Prior	17/18	18/19	19/20	20/21	21/22	22/23+	Total	
E&P (PA&ED)									CTC
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>									
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			2,106					2,106	
<b>TOTAL</b>			2,106					2,106	

Fund No. 2:	Proposition K Local Sales Tax								Program Code
Existing Funding (\$1,000s)									Funding Agency
Component	Prior	17/18	18/19	19/20	20/21	21/22	22/23+	Total	
E&P (PA&ED)									SFCTA
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>									
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			2,794					2,794	
<b>TOTAL</b>			2,794					2,794	Prop K funds for this project were programmed by the San Francisco County Transportation Authority Board on December 12, 2017, through resolution 2018-029.