City of Arts & Innovation

Mobility & Infrastructure Committee Memorandum

TO: **MOBILITY & INFRASTRUCTURE COMMITTEE** **DATE: JUNE 12, 2025**

FROM: **PUBLIC WORKS DEPARTMENT** **WARDS: ALL**

SUBJECT: **PAVEMENT TRENCH CUT FEE STUDY AND FEE SCHEDULE**

ISSUE:

Receive and provide input on the Pavement Trench Cut Fee Study and recommended fee schedule to better preserve roadways.

RECOMMENDATION:

That the Mobility & Infrastructure Committee recommend that the City Council approve a Trench Cut Fee Schedule to recover costs associated with the damage from trenches and utility cuts on roads.

BACKGROUND:

The Public Works Department (Public Works) has established a Pavement Management Program (PMP) and has adopted policies, invested in software, and conducts scheduled roadway surveys to select projects and pavement treatments to align the paving needs with the PMP budget. In recent years, staff have implemented a series of improvements and best practices to keep pace with roadway paving demands and improve the City's overall Pavement Condition Index (PCI) score. Specifically, these improvements and practices have included:

1. Created the GIS Paving Map (www.riversideca.gov/pavingmap) to share paving projects and construction schedules with the community and utility companies. This map allows the utility companies to better coordinate utility work before roads are paved.
2. Extended the paving moratorium from three to five years to better protect newly paved roads.
3. Updated Public Works Standard Drawing No. 453 to detail and standardize trench repairs
4. On June 27, 2023 the City Council authorized the Finance Department to refinance a 2013 debt obligation which was secured to pave a backlog of streets requiring rehabilitation. The refinance will save approximately $2.4 million through 2033 when the loan is scheduled to be paid off.
5. Public Works and the Riverside Public Utilities Department have collaborated to hire an on-call contractor to invest $1.5 million annually to address the backlog of temporary pavement trench patches associated with emergency water line repairs.
6. Hired IMS Infrastructure Management Services, LLC, to survey the City's 876 centerline

miles of roads. Arterials are surveyed on a 3-year cycle, Collectors on a 4-year cycle, and Local/Residential roads on a 5-year cycle.

7. Utilize *Lucity* software to align the Pavement Management Program's budget with IMS' roadway survey data to objectively and systematically invest in roadway repairs and preservation efforts to maximize the benefits to the community.
8. Piloted a 100% recycled asphalt treatment which did not garner the expected results.
9. Utilize asphalt grindings to stabilize unimproved alleys. It reduces the contractor's cost to dispose of the material and repurposes the asphalt grinding to alleys that are not on the paving priority list.
10. Will be piloting "cool" pavement on Linden Street to evaluate its performance and assess community feedback.
11. Appropriated $10 million (one-time funding) from the City's General Fund to address paving needs in Fiscal Year 2023/24.
12. Pursuing City and grant funding opportunities to replace street maintenance equipment in the next 5 years to expand paving and striping capabilities by City forces. Staff has identified $5.325 million in equipment needs.
13. Assess truck traffic volumes and cut-through traffic concerns to recommend adoption of 4 or more axle restrictions to encourage trucks and heavy vehicles to remain on the local freeways and minimize damage to the City's roadway network.
14. Continue to meet with contractors and consultants to evaluate emerging technology, materials, and best practices to improve paving projects and preserve roads which includes conducting a Pavement Trench Cut Fee Study.

Public Works maintains approximately 876 centerline miles of pavement with an average Pavement Condition Index of 58 (as of 2024) which corresponds to a "Fair" conditional rating. The PCI is a numerical rating between 0 and 100 which is used to indicate the general condition of a pavement section, where 100 represents a newly paved street. Excavations for utility repairs/improvements damage the pavement, can contribute to rough rides, and can shorten a road's lifespan. Numerous studies have demonstrated that trenches and the respective asphalt patches create weaker pavement sections and the joint lines are susceptible to water intrusion which create increased stresses on the pavement leading to premature pavement failures and PCI decreases. Even when the excavations are patched and repaired to City standards, the asphalt patches are weaker due to the seam lines and the inability to compact the underlying material to 100% and are detailed in Figure 1.

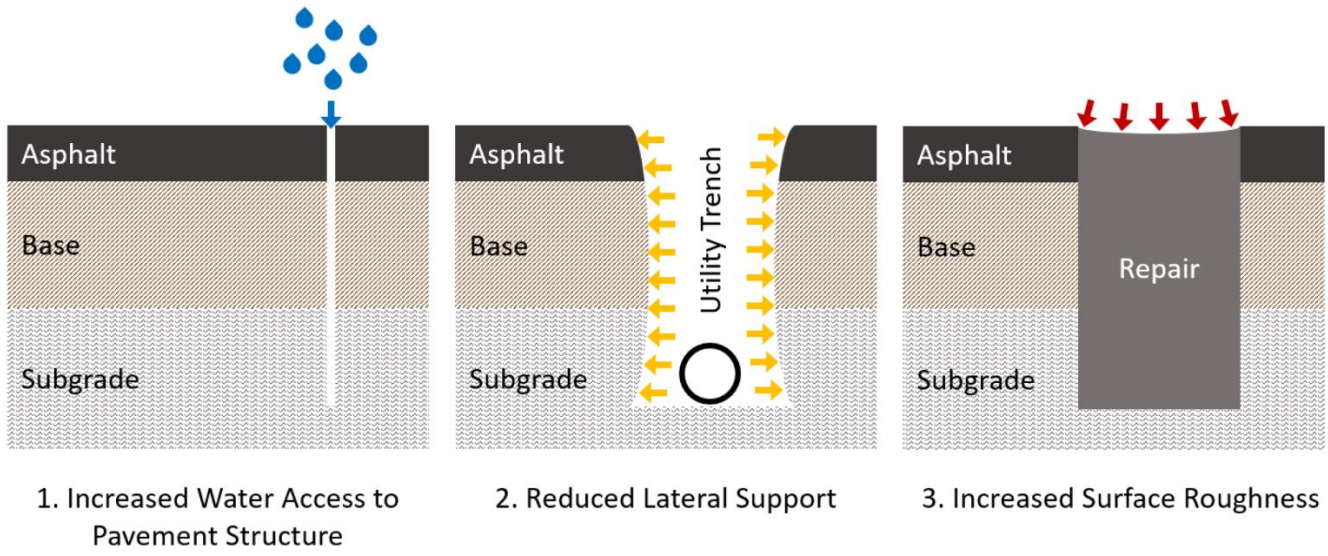

Figure 1 – Damage Mechanisms to Pavement

On December 12, 2023, the City Council approved a Professional Consultant Services Agreement with Nichols Consulting Engineers (NCE) to conduct a study related to the impact and costs of cutting into the existing pavement. The study concluded that utility cuts in the City reduce the pavement life by an average of 24% while weakening the adjacent pavement area. Consequently, this damage equates to millions of dollars in premature street repairs and remediation expenses. The study also evaluated both the structural (reduction of pavement structural capacity) and functional (reduction of PCI) damages at 30 test sites on arterial and local streets with varying pavement conditions within the City.

Pavement Condition Index and Funding Analysis

The pavement demands far exceed available resources and thus the Public Works Department studied other agencies to evaluate how the respective pavement management programs are funded. Some agencies have adopted a Pavement Trench Cut Fee Schedule to assess fees on contractors, utility companies, and developers who are directly responsible for roadway trenches and subsequently responsible for the reduced pavement life. Table 1 details the five-year annual pavement budget needs to support the targeted pavement condition index scores.

Table 1 – 2024 Five-Year PCI and Funding Analysis

2024 (Overall PCI of 58)		
Annual Budget	**PCI**	**Backlog**
$21M	54	29%
$29M	56	26%
$38M	58	22%
$45M	60	19%
$56M	62	16%
$64M	64	14%
$74M	66	13%
$86M	68	10%
$96M	70	8%

Table 2 details the PMP budgets since 2016 noting that the existing annual budgets are not keeping up with inflation and recommended funding to prevent the existing PCI from decreasing.

Table 2 – PMP Budget from FY 2016/17 through FY 2024/25

Fiscal Year	**Funding Source (Millions)**					
	Measure A	**State Gas Tax**	**SB1 Gas Tax**	**CDBG**	**Measure Z**	**Subtotal**
2016/17	$13.50				NA	**$13.50**
2017/18	$13.50				$2.875	**$16.375**
2018/19	$13.50				$2.875	**$16.375**
2019/20	$2.40	$2.80	$5.40	$2.60	$7.80	**$21.00**
2020/21	$1.20	$1.40	$2.70	$0	$7.80	**$15.80**
2021/22	$2.00	$2.80	$6.40	$1.20	$7.80	**$20.20**
2022/23	$2.40	$2.10	$7.20	$1.90	$12.30	**$25.90**
2023/24	$2.40	$1.80	$7.70	$1.10	$8.80	**$31.80***
2024/25	$2.40	$2.45	$7.45	$1.63	$12.00	**$25.93**

* A $10 million appropriation from the City's General Fund

DISCUSSION:

The City contracted with NCE to fully understand the impact of utility cuts on pavements in the City, to develop a recommended fee schedule to recover costs associated with such damage, and to compare that fee schedule with typical fees charged by similar California agencies, NCE reviewed relevant studies and investigated the structural and functional deterioration of pavements due to utility cuts. NCE used field evaluations to examine pavement deterioration, which included analysis of functional and structural damage at 30 different sites within the City. The selected field sites had varying functional classes and conditions (Pavement Condition Index). NCE used a falling weight deflectometer to assess loss of structural capacity due to cuts at the sites and surveyed pavement conditions to assess functional damage.

Some of the key findings from this study include:

- Utility cuts cause damage to pavement:
  - Ninety-seven percent of the test sites were either structurally or functionally damaged by utility cuts.
  - Seventy-three percent of the test sites had both structural and functional damage.
- Utility cuts cause structural damage to pavement:
  - An average overlay thickness of 4 inches is needed to compensate for the loss in structural capacity.
- Overall, pavements with cuts deteriorate more rapidly than pavements without cuts.
  - An average condition reduction of 18 PCI points was observed when utility cuts were present.
- Utility cuts cause damage to the pavement beyond the edge of the cuts.

Thirty percent of the test sites displayed damage two feet outside the edge of the cut/T-arm as known as the "Zone of Influence". Thus, the recommended fee schedule captures the two feet beyond the edge of the cut/T-arm to address these conditions.

Table 3 (Percent Reduction in Service Life and Equivalent Damage Cost) in the Pavement Utility Cut Impact Fee Study, assessed the 30 test sites and assigned a percent in reduction in pavement life and cost per square foot associated with the respective asphalt patches. These findings were used to develop the Recommended Pavement Trench Cut Fee Schedule and staff recommends that streets having a PCI of less than 25 (Conditional Rating of Poor or Very Poor) be exempt from fees as those roads already require more extensive improvements.

Further, Figure 2 shows the study methodology that NCE took to develop the fee calculation which consider the Functional Deterioration and Structural Deterioration.

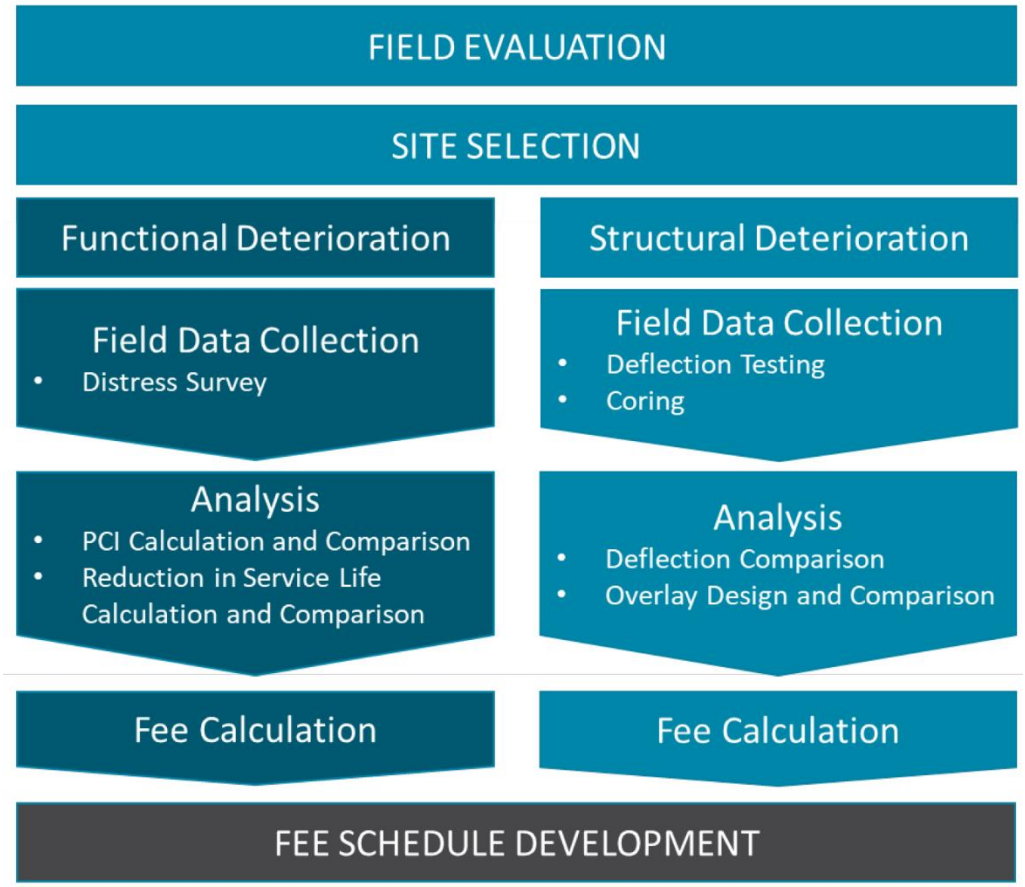

Figure 2- Study Methodology

Using the above analysis, NCE is recommending that the City consider the fee schedule detailed in Table 3.

Table 3 - Recommended Pavement Trench Cut Fee Schedule

Functional Class	PCI Group	Fees ($/SF*)
Arterials/Collectors	PCI ≥ 60	$ 5.00
	25 ≤ PCI < 60	$ 3.50
	PCI < 25	$ 0.00
Residentials	PCI ≥ 70	$ 4.50
	25 ≤ PCI < 70	$ 3.50
	PCI < 25	$ 0.00

* The total square footage includes the zone of influence (2 ft outside the edge of the cut/T-arm).

California law does not allow public agencies to charge user fees to companies or developers that are using a jurisdiction's roadways. However, State law allows for the collection of fees to mitigate street impacts and damage by development projects and utility work that trench and damage roads.

The City's GIS Paving Map is great tool that is available to developers and utility companies as they have an opportunity to track the City's planned paving work to avoid or minimize the trench cut fees as in some cases they can perform their work in advance of the City's planned paving projects. Utility companies that cannot coordinate their work with the City or have to perform emergency work would be subject to the trench cut fee schedule, if approved. These fees would

be calculated commensurately with the amount of trenching that is conducted, the road's classification (i.e. arterial/collector, residential), and the existing PCI to ensure the fee is applied judiciously.

STRATEGIC PLAN ALIGNMENT:

This item contributes to Strategic Priority No. 6 Infrastructure, Mobility and Connectivity and Goal No. 6.2 – Maintain, protect, and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

This item aligns with EACH of the five Cross-Cutting Threads as follows:

1. **Community Trust** – The proposed Fees aligns with the City's goals to improve the roadway network and quality of life for residents and visitors. The Public Works Department keeps the City Council, Transportation Committee, and Budget Engagement Commission apprised of the goals and progress associated with the Pavement Management Program.

2. **Equity** –This proposed Pavement Trench Cut Fee Schedule is commensurate with the amount of trenching, road classification, and existing PCI so fees are applied appropriately.

3. **Fiscal Responsibility** – Public Works responsibly manages a variety of funding sources to complete projects and award consultant contracts to help advance the department's mission. Public Works is a prudent steward of public funds and staff would form a team to review and score proposals.

4. **Innovation** – Progressive agencies support utility cut fees to recover the costs of cutting into city streets, helping maintain infrastructure and ensure responsible utility work.

5. **Sustainability & Resiliency** – The proposed pavement trench cut fee schedule provides fees that would help better repair and preserve City streets.

FISCAL IMPACT:

While there is no immediate fiscal impact from receiving and recommending the fee schedule, the proposed trench cut fee would enable the City to begin recovering a portion of the long-term costs associated with utility cuts and trench-related pavement degradation. In turn, the fee would help reduce reliance on General Fund support for street rehabilitation and extend the useful life of paved assets.

Prepared by:	Gilbert Hernandez, Public Works Director
Approved by:	Gilbert Hernandez, Public Works Director
Certified as to availability of funds:	Kristie Thomas, Finance Director / Assistant Chief Financial Officer
Approved by:	Kris Martinez, Assistant City Manager
Approved as to form:	Rebecca McKee-Reimbold, Interim City Attorney

Attachments:
1. NCE Report
2. Presentation

3.