



Prioritizing Pleasanton Street Work Using the Pavement Condition Index

Ever wonder how the City prioritizes street work? A lot of thought and effort is put forth to determine how to best spend the limited funds available for street work as there is simply not enough funding to keep every street in a like new condition.

Not “Worst is First” Approach

It isn't feasible to approach street repairs from a “worst is first” approach; if that were the case, all available funding would only go to repairing the worst streets and not much else would be accomplished. But more important, many streets currently in good or fair condition would deteriorate without maintenance, and the overall condition of the street system would diminish.

To ensure effort goes to street reconstruction as well as maintenance, the City utilizes a pavement management program to objectively determine how to best spend the limited resources.

- There are nearly 207 centerline miles, or 501 lane miles, of paved roads in Pleasanton. For inspection purposes, these roadways are divided into 1,311 sections.
- Every two years all 1,311 roadway sections are inspected and assigned a numerical rating between 0 and 100. This is called the Pavement Condition Index or PCI. The last such inspection occurred in July and August of 2015 and is scheduled to be inspected starting in July 2017.

- Inspection standards to determine PCI were created by the Army Corp of Engineers and adopted by the Bay Area Metropolitan Transportation Commission. They are used by the all the cities in the nine counties of the Bay Area. This allows the roadway conditions in each city to be directly compared.
- In general, a PCI of 100 is a new street, above 75 is considered “good”, above 50 is considered “fair”, above 25 is “poor”, and less than 25 is “very poor” (failed).
- In general, with no maintenance, street surface conditions move from a rating of 100 down to 50 with about 18-years of service.
- In general, with no maintenance, street surface conditions move from 50 to 25 (or failed) in just a more few years of service. In other words, the rate of deterioration speeds as the street ages.

The goal of the pavement management program to maintain the City’s overall Pavement Condition Index. This is done by reconstructing streets that are in “poor” or “very poor” condition. But it is also accomplished by doing preventative maintenance on streets that in “good” or “fair” condition. There are basically thee distinct street repair methods utilized dependent on the Street condition; sealing the streets that are rated in “good” condition, overlaying streets that are in “fair” condition, and reconstructing streets that are in “poor” or “very poor” condition. Each method is discussed below.

Slurry Seal

In Pleasanton, the treatment on streets rated “good” with PCI close to 75 is usually slurry seal, with some crack sealing and isolated full depth pavement repairs before the seal work. Slurry sealing the streets involves a mixture of asphalt, graded aggregate materials and water that is

applied to the street surface to seal and rejuvenate the existing pavement. It is relatively economical, costing approximately 45 cents per square foot. At this cost, many street sections can be sealed increasing the PCI on those streets from the low end of “good” at 75 to the higher end of “good” closer to 100.

Asphalt Overlay

An asphalt overlay is the next treatment level. An overlay treatment installs a layer of asphalt 1.5 to 2-inches thick over the existing street surface. Before the overlay occurs, the edges of the street are ground down so the overlay transitions well to the existing curbs. Typically, there are moderate levels of isolated full depth pavement repairs before the overlay. Overlays cost approximately \$2.10 per square foot. An overlay can take a street with a PCI with a rating of 50 and move it up to a PCI closer to 100, but it costs 4.5 times as much as the slurry seal.

Street Reconstruction

Finally when the PCI of a street is rated as “poor” or “very poor,” complete reconstruction is necessary. This process involves reconstructing the roadway base rock as well as repaving of the street surface. This repair method costs approximately \$7.00 per square foot, but when done the street is new and has a PCI of 100. But at this cost, available funds doesn’t allow a lot of work.

As you can see, the City’s pavement management system, combined with sound engineering judgement, is used to balance the street repair program to meet the goal of keeping the overall condition of the streets in the best possible condition with the resources available. As of 2015, inspection data rates Pleasanton’s street system with an overall PCI of 80, giving the City an

overall PCI rating that is the third highest in Alameda County behind only Piedmont and Dublin, although one could argue Dublin's high overall PCI is a product of the amount of development with new streets.

Because the City uses the pavement management program and balances maintenance and reconstruction each year to maintain the overall condition of the street system, comments are often received questioning why some streets are slurry sealed, when there are other streets in worse condition are receiving no treatment in a given year. Hopefully this explanation answers that question if you have every had the same thought.