Streets Presentation

Public Works Department

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City Engineer

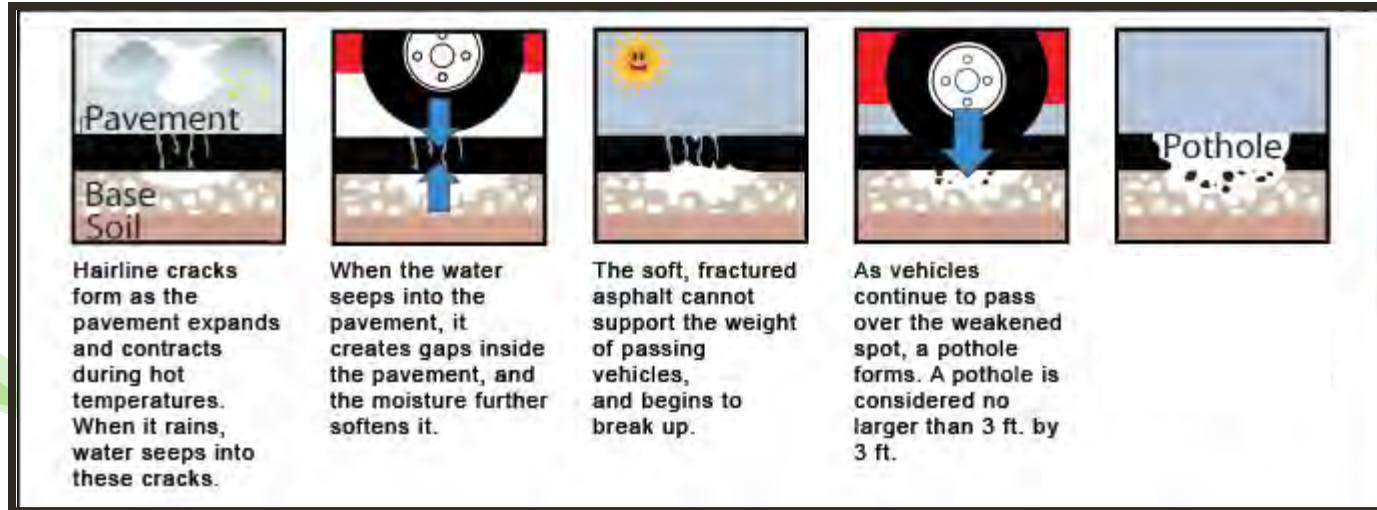November 19, 2013

City of
VALLEJO
California

Street Repairs

- A Guide to Potholes & Pavement Failure

- Pavement Condition Index (PCI)

- Different Types of Repairs & Costs

- Criteria Used to Determine Scheduling of Repairs

A Guide to Potholes & Pavement Failure

How a Pothole is Created

Hairline cracks form as the pavement expands and contracts during hot temperatures. When it rains, water seeps into these cracks.

When the water seeps into the pavement, it creates gaps inside the pavement, and the moisture further softens it.

The soft, fractured asphalt cannot support the weight of passing vehicles, and begins to break up.

As vehicles continue to pass over the weakened spot, a pothole forms. A pothole is considered no larger than 3 ft. by 3 ft.

- Report potholes *(or any non-emergency maintenance problem)* at the City's new SeeClickFix feature online or from your mobile device.
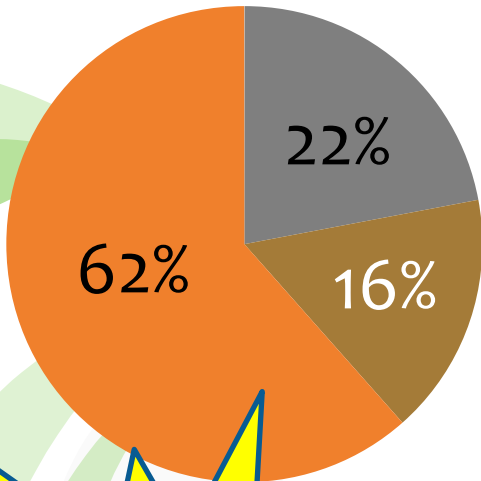
SeeClickFix.com/Vallejo

Be sure to check out the new online/ mobile reporting tool!

Vallejo Street Stats

PCI (pavement condition index) is a numerical index used to indicate general condition of pavement on a scale from 100-0

Street Type

- 22%
- 62%
- 16%

Street type becomes very important when we talk about funding...

- Arterials
- Collectors
- Residential

Pavement Condition

Excellent, very good, and good

Fair and "At Risk"

Poor

Failed

PCI

- Cat I
- Cat II&III
- Cat IV
- Cat V
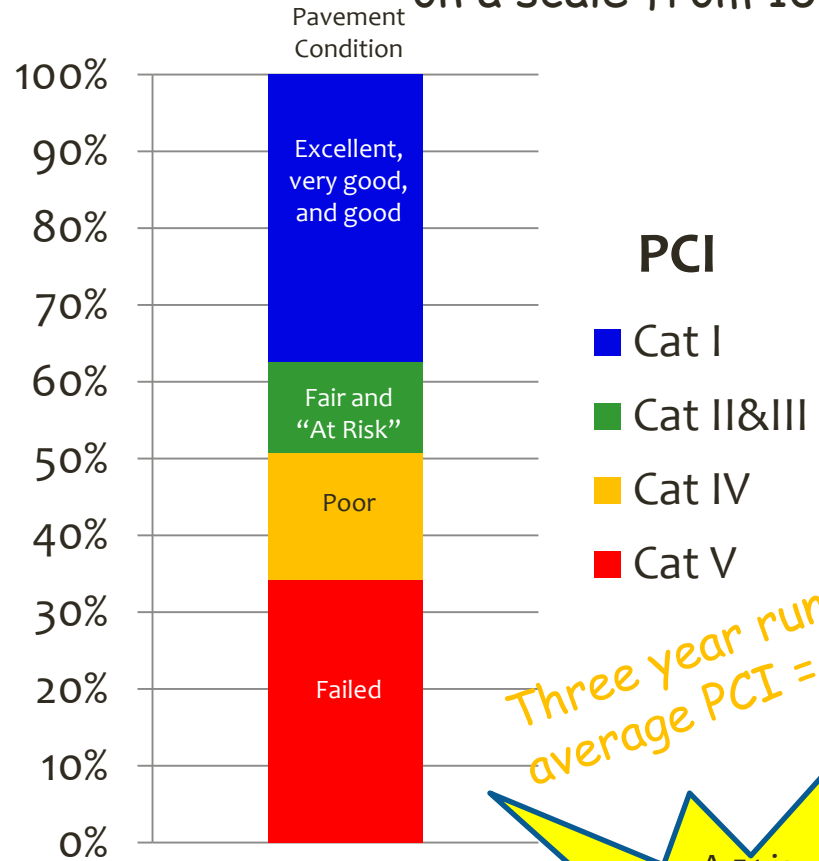
Three year running average PCI = 51

A 51 is considered "At Risk" for imminent failure

Cat I PCI 70-100

Streets in excellent, very good, and good condition in the Crest.

Cat I PCI 70-100   Cat II - III PCI 50-69

Streets in fair condition or "at risk" in green
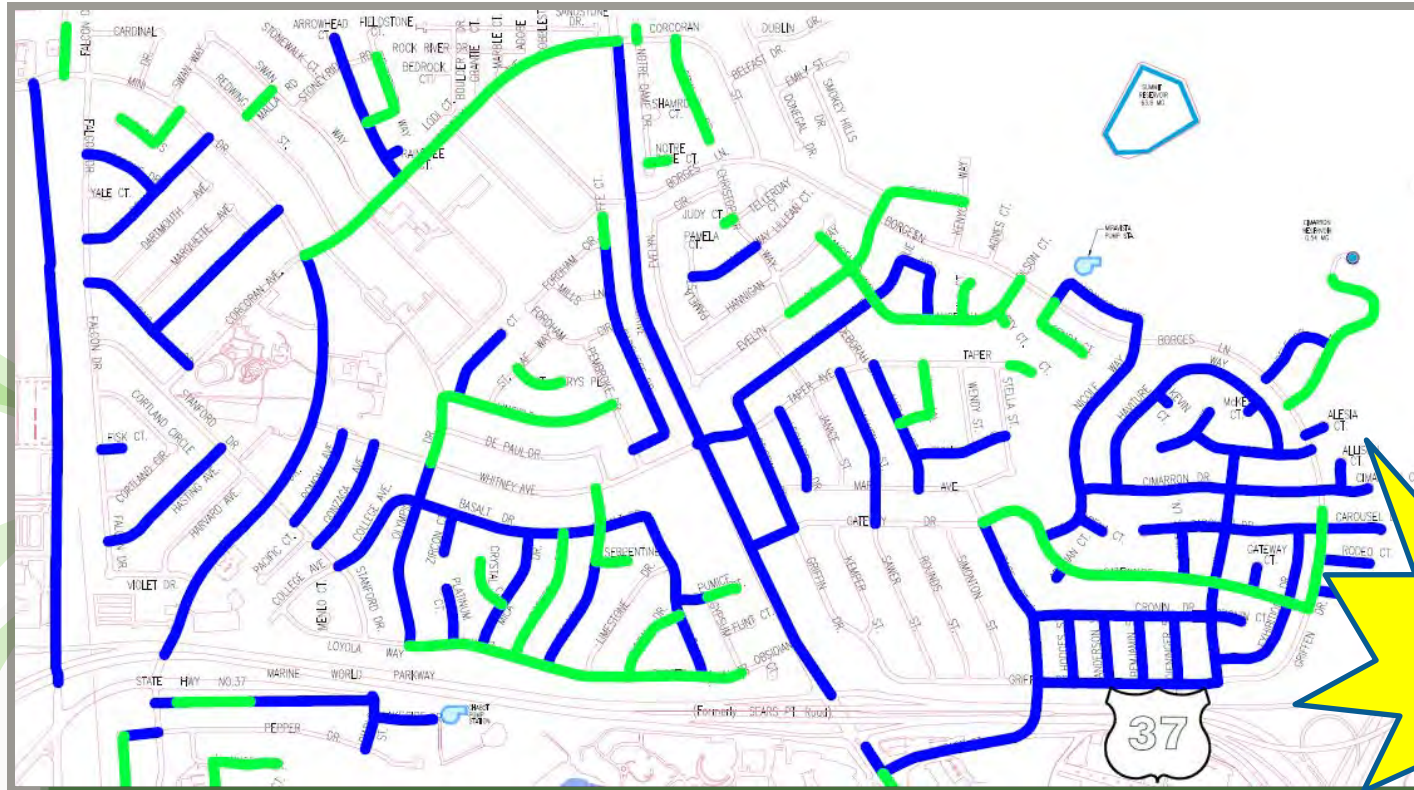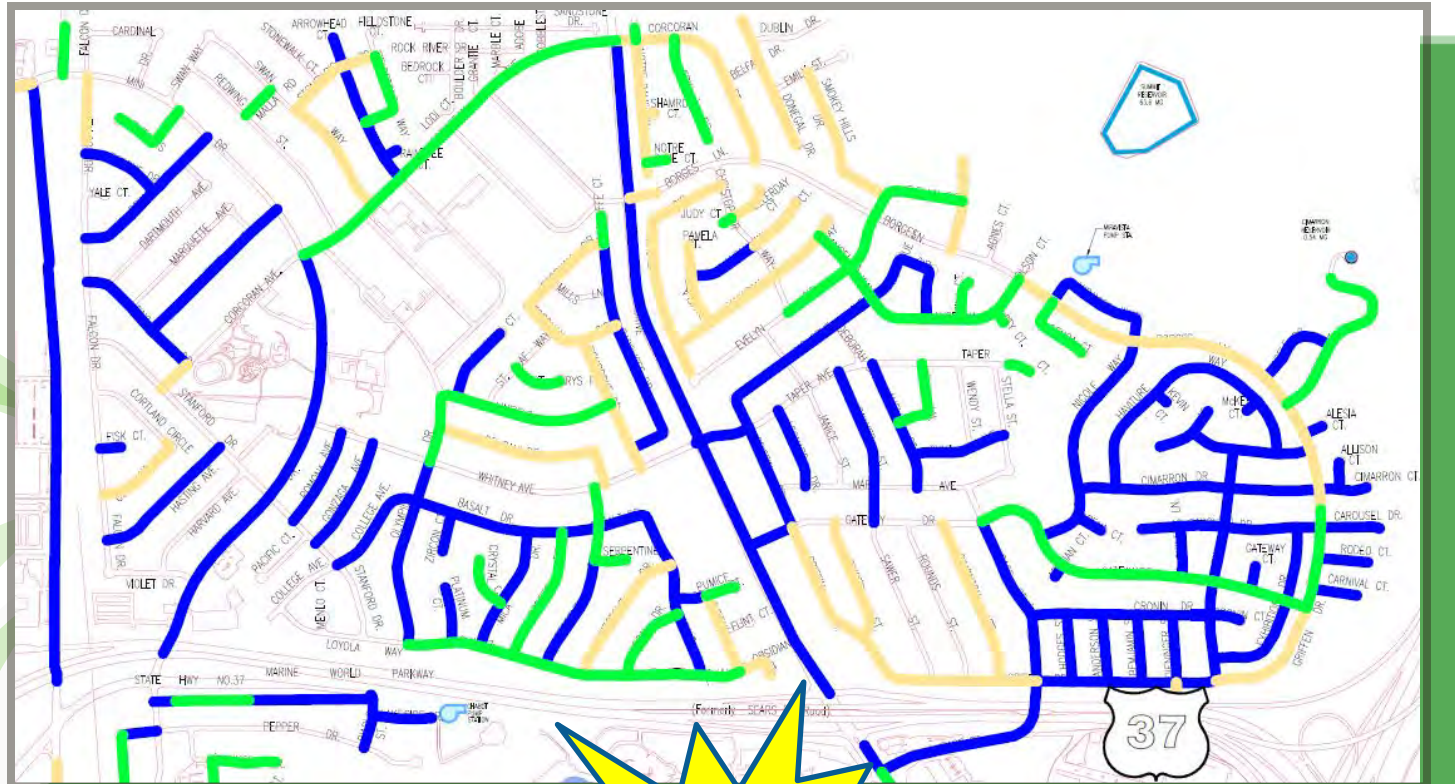
Cat I PCI 70-100   Cat II - III PCI 50-69
Cat IV PCI 25-49

Tan indicates poor condition.

Cat I PCI 70-100   Cat II - III PCI 50-69
Cat IV PCI 25-49   Cat V PCI 0-24
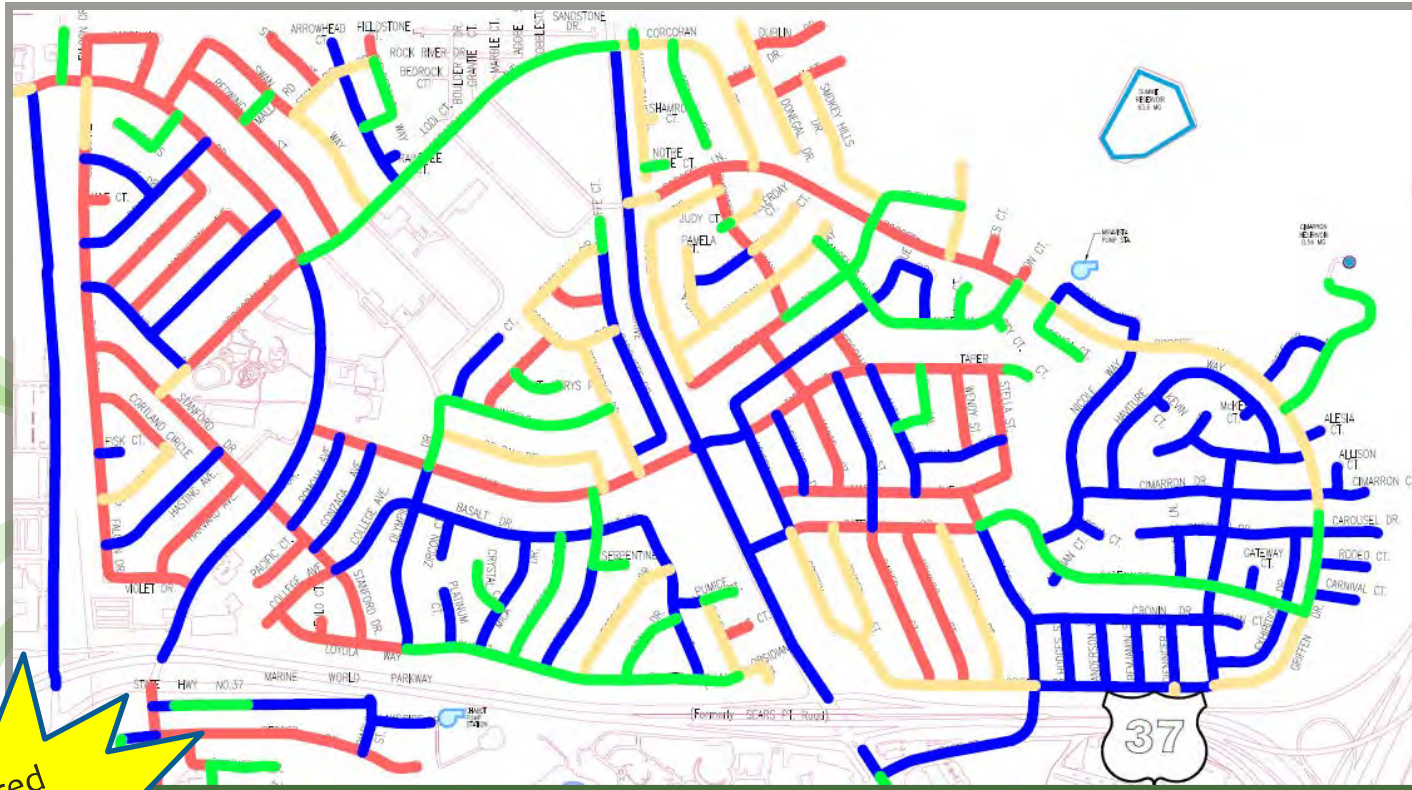
And red implies failed condition.

So, what does this mean...?

Repairs and Costs

It all relates to costs.

PAVEMENT CONDITION INDEX

Cat I
PCI 70-100

Cat II&III
PCI 50-69

Cat IV
PCI 25-49

Cat V
PCI 0-24

40% drop in quality

$2.00 for PP Here

75% of life

40% drop in quality

$4.00 for RM Here
Reactive Maintenance
Results will vary
based on PCI

Will Cost $12.00
to $16.00 for
Rehabilitation Here

12% of life
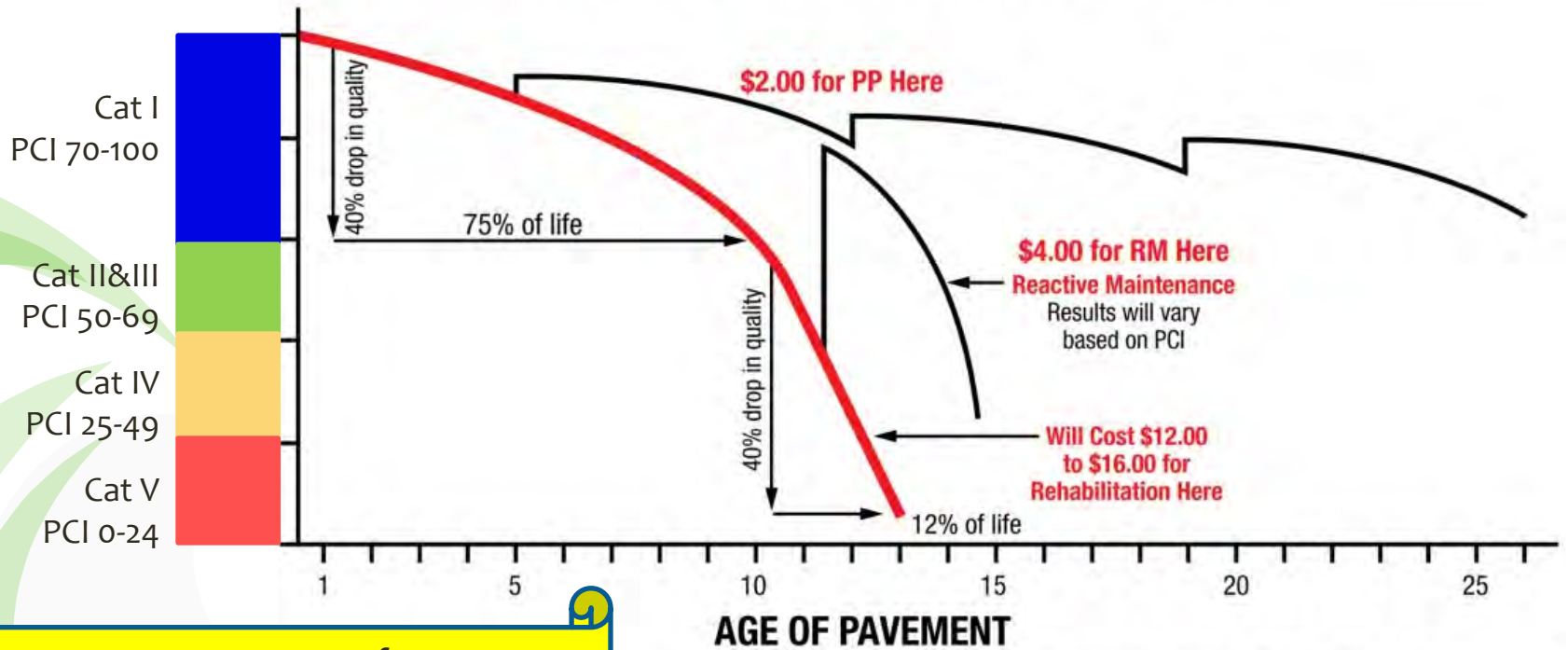
AGE OF PAVEMENT

PP = Pavement Preservation   RM = Reactive Maintenance

$1M can pay for
40 blocks of pavement
preservation ~OR~
3 blocks of rehabilitation

Repairs and Costs

- Five year expenditure predictions
  - $2.7M/yr => PCI decrease by 6 points
  - $7M/yr   => maintain PCI
  - $16M/yr   => PCI increase by 5 points

This is what we spent before Measure B.

- Budget this year:
  - $4.4M from Measure B
  - $1.3M from Prop 42
  - $1.8M from Gas Tax

$7.5M in 2013/14
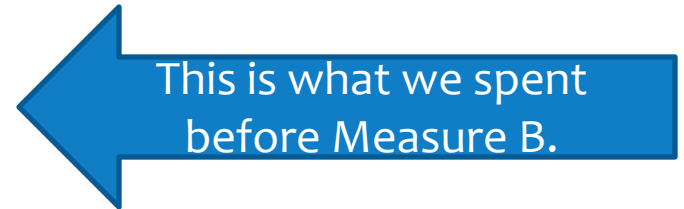
Different Types of Repair

- Pothole Repair
  - Road crews fill pothole with replacement pavement material
    - Cold patches for small potholes in areas of light traffic
    - Hot asphalt in high traffic areas or larger potholes
  - Completed by City Maintenance Crews
    - Completed as quickly as possible, considering:
      - Severity (emergency fix?)
      - Number of requests
      - Other Maintenance work
    - Goal: Minimize damage until permanent pavement repairs can be made.

Different Types of Repairs

- Category I - Crack Seal/Surry Seal

The City recently slurry sealed 19 miles of streets, at less than $1/sf

This will extend these roads 5-7 years

Different Types of Repairs

- Category I: Crack Seal/Surry Seal
- Category II&III: Thin AC Overlay/Skin Patch

Different Types of Repairs

- Category I: Crack Seal/Surry Seal
- Category II&III: Thin AC Overlay/Skin Patch
- Category IV: Thick AC Overlay

Different Types of Repairs

- Category I: Crack Seal/Surry Seal
- Category II&III: Thin AC Overlay/Skin Patch
- Category IV: Thick AC Overlay
- Category V: Reconstruction

Pavement Repair Prioritization

- Confirm current funding levels and requirements/restrictions on grants or funding source
- Evaluate the PCI, traffic volume, bus routes, and the surrounding area (school zones, retail centers)
- Coordinate with underground utility work
- Move the money around entire City

- *List of street conditions and appropriate repairs is continually updated*

Funding Restrictions

- Location
  - Federal funds can only be used on streets that are identified as arterials and major collectors. (red, green, and purple lines)

    ~ AND ~

  - New restrictions based on "Priority Development Areas" (Downtown area)

- Use
  - Specific purposes

    (increased transit, pedestrian, bicycling & trails, school access, etc.)

The only PDA in Vallejo.

Planned work:

City crews will repair 407,000 sf of pavement in these residential areas.

- 2014 Construction
  - Sereno Drive (Tuolumne to Fairgrounds)
  - Downtown Streetscape – Sacramento and Georgia
  - Chase Street (Benicia Rd to Beach St)
  - Santa Clara (Carolina to Tennessee)
  - Dartmouth (Princeton to Baylor)   -- Toyon (Redwood to Tuolumne)
  - Whitesides (S Regatta to end)   -- Sandpiper (Mini to Meadows)
  - Ohio (RR tracks to Broadway)   -- Granville (Maple to Webb)
  - Fleming (Mariposa to end)   -- Sheridan (Cherry to Magazine)
  - Lynn (Parkwood to end)   -- Shasta (Nebraska to Tennessee)
  - Rae (Parkwood to end)   -- Colt (Winchester to end)
  - Patrick (Parkwood to end)   -- Henry (Hale to Lassen)
  - Sherrod (Parkwood to end)   -- Wolfe (Springs to Florida)

Planned work:

- 2015 Construction
  - Downtown Streetscape – Maine (Sacramento to Santa Clara)
  - Florida (Tuolumne to Amador)
  - Capitol (Santa Clara to Marin)
  - Carolina (Santa Clara to Sonoma)
  - Plus all of the streets completed by Maintenance, similar to 2014's list

Contact

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