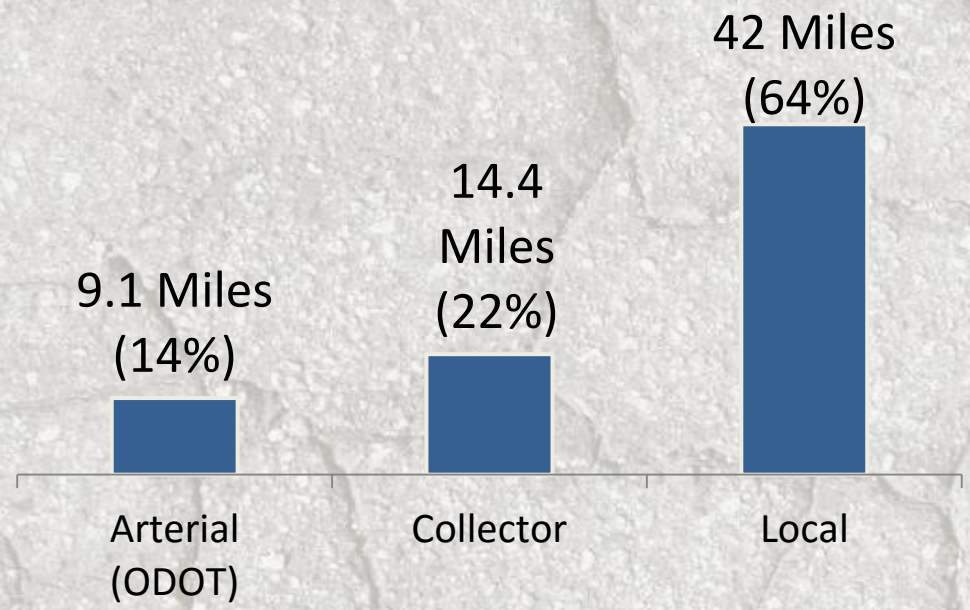
Pavement Management Introduction

City of Newberg

City Pavement Assets

- 65.5 miles of paved streets
- 4.0 miles of gravel roadways
- Approximate replacement value of pavement asset $150 million



What is Pavement Management?

- Planning maintenance and repair of a network to optimize pavement conditions
- Consists of:
  - Inventory of pavement conditions
  - Assigning importance of segments
  - Network analysis based on decision criteria
  - Schedule *maintenance* to maintain “good” streets
  - Schedule *repairs* of “poor” and “fair” based on available funding

City of Newberg

Classification of Pavement Condition

VERY GOOD (PCI=95)

GOOD (PCI=70)

FAIR (PCI=60)

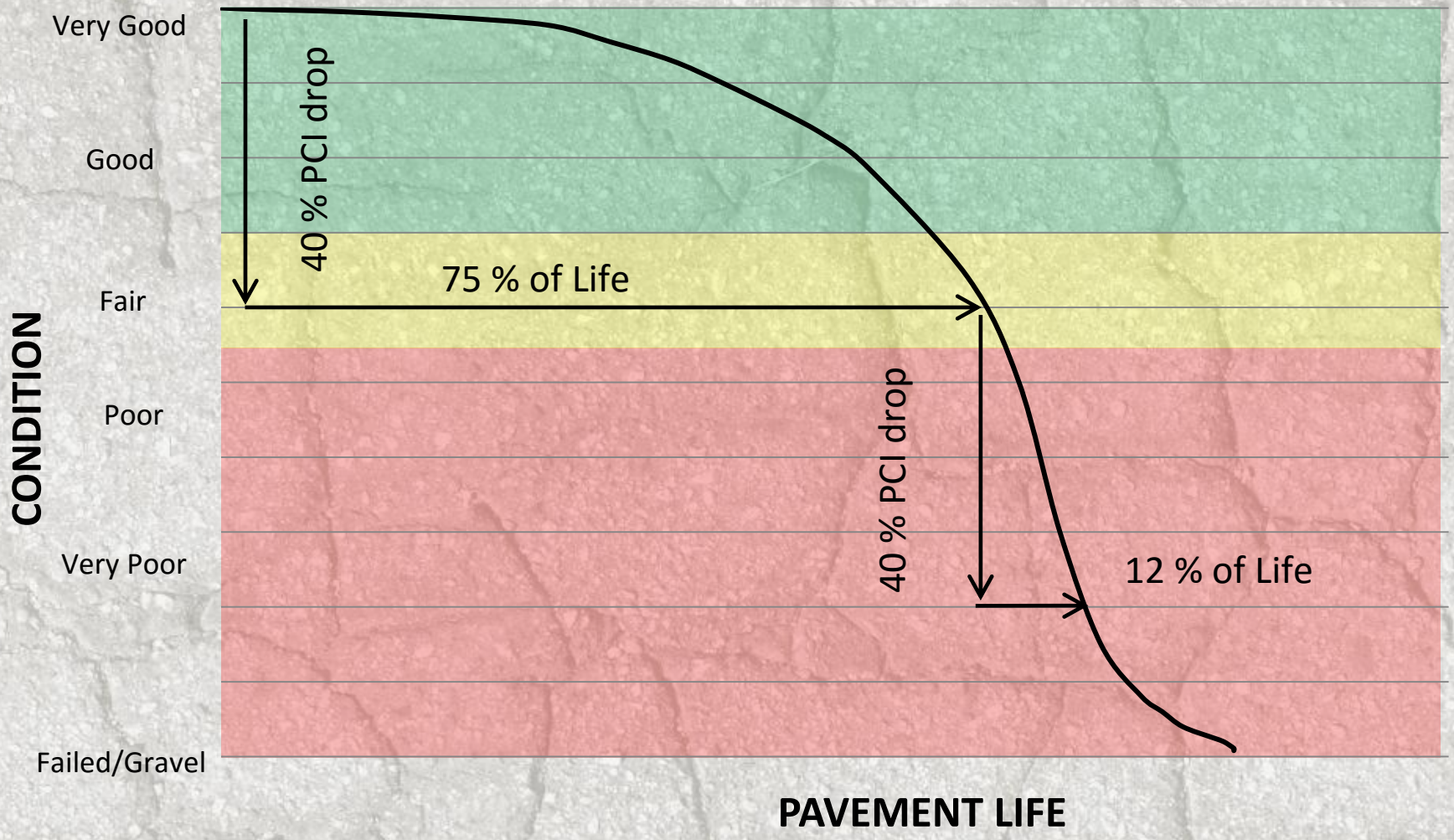
POOR (PCI=45)

VERY POOR (PCI=20)

GRAVEL (PCI=0)

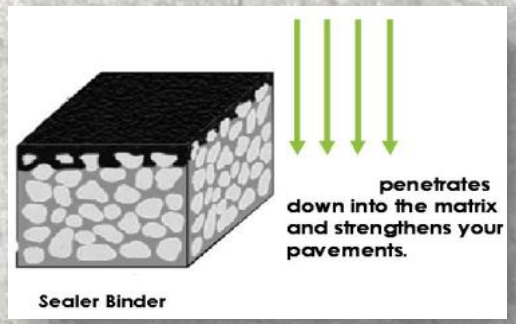
City of Newberg

PCI Diagram


Very Good
Good
Fair
Poor
Very Poor
Failed/Gravel
CONDITION
40 % PCI drop
75 % of Life
40 % PCI drop
12 % of Life
PAVEMENT LIFE

Types of Maintenance

1. **Crack Sealing:**
   - The least expensive treatment.
   - Crack sealing prevents the majority of moisture from entering the underlying aggregate base rock.
   - Approximately $0.80 / lineal foot



2. **Fog Seal:**
   - Rejuvenates the oils in the top layer of asphalt
   - Fills small gaps between the aggregate in pavement
   - Reduces deterioration of surface.
   - Approximately $0.60 / sq. yard

3. **Slurry seal / Chip seal:**
   - Slurry is mixture of asphalt emulsion, fine aggregate and water spread at approx 3/8” thick.
   - Chip is coarser aggregate placed on hot asphalt oil
   - Protects pavement from water damage Provides a new surface.
   - Approximately $1.50 (slurry) $2.50 (chip) / sq. yard

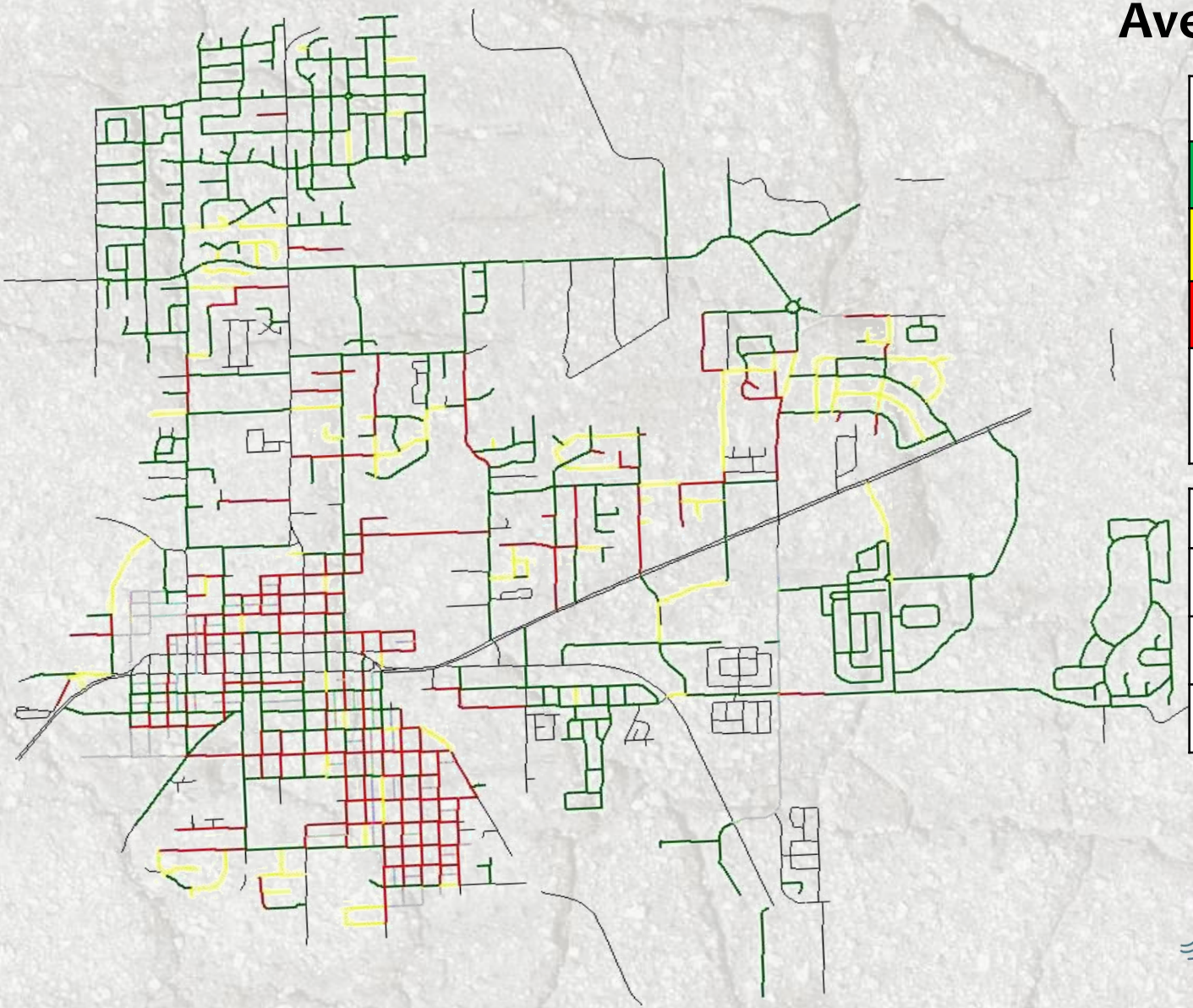
Types of Rehabilitation

1. **Pavement overlay:**
   - **Thin lift overlays, thickness of 1-inch**
   - **Standard overlays are usually 2-inches**
   - **Increases road grade**
   - **Approximately $12/sq. yard depending**

2. **Pavement grinding and inlay:**
   - **Most common rehabilitation in a city**
   - **Used on distressed pavement**
   - **Grind depth depends on distress types, depths, severity, and road capacity**
   - **Maintains road profile**
   - **Can combine with overlay for increased thickness / strength**
   - **Significant cost variability: $15 to $40 / sq. yard**

Pavement Condition Index Map

City wide Weighted Average PCI=**73**



PCI Rating Scale
Good (70 – 100)
Fair (55 – 70)
Poor (0 – 55)
Not Managed by City or Gravel

Rating Distribution	
66%	Good
12%	Fair
22%	Poor

City of Newberg

2014 Results Summary

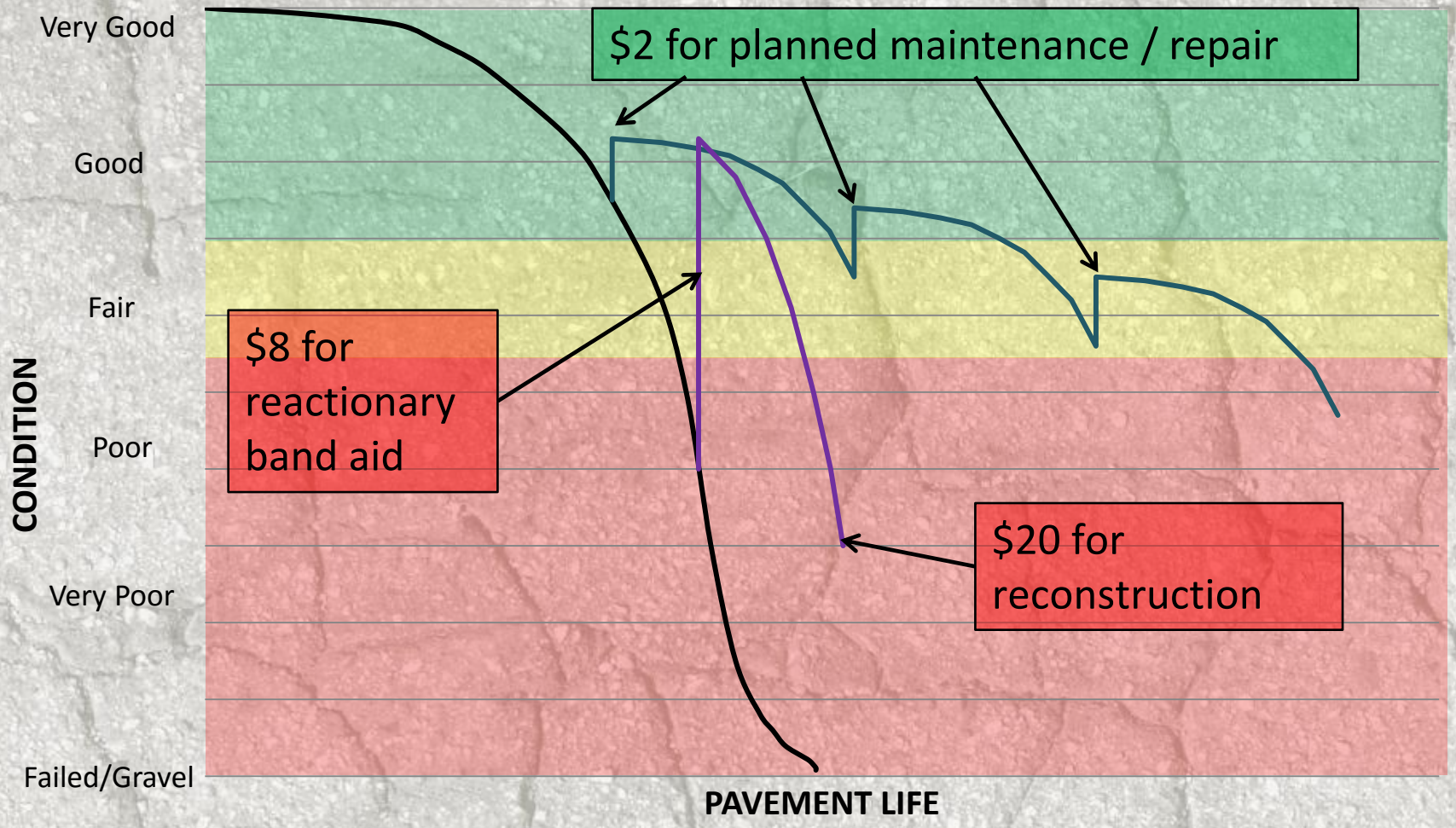
- 2014 pavement budget $150,000 per year
- At current rate, PCI could fall to 60 in 8 to 10 years.
- Backlog of $14 million of pavement maintenance and repairs
- At least $1.9 million/year estimated to maintain current PCI
- Around $2.8 million/year to improve PCI to a “no pothole” standard

City of Newberg

City 2015 to 2016 Work

- Reactionary/complaint driven
- Low budgets - $250,000/year
- Why need to improve
- Public opinion
- Last year completed Meridian Street & portions of Main Street
- This year's project in on Elliot Road & N. Springbrook Road
- Miles of crack sealing….

Why reactionary is bad



Need Defined

- Citizens to understand:
  - Why we need to maintain our pavement asset
  - Why we don't want to focus only on POOR streets
- Committee to:
  - Represent your community
  - Advise on priority decision matrix
  - Advise on fair allocation of cost share