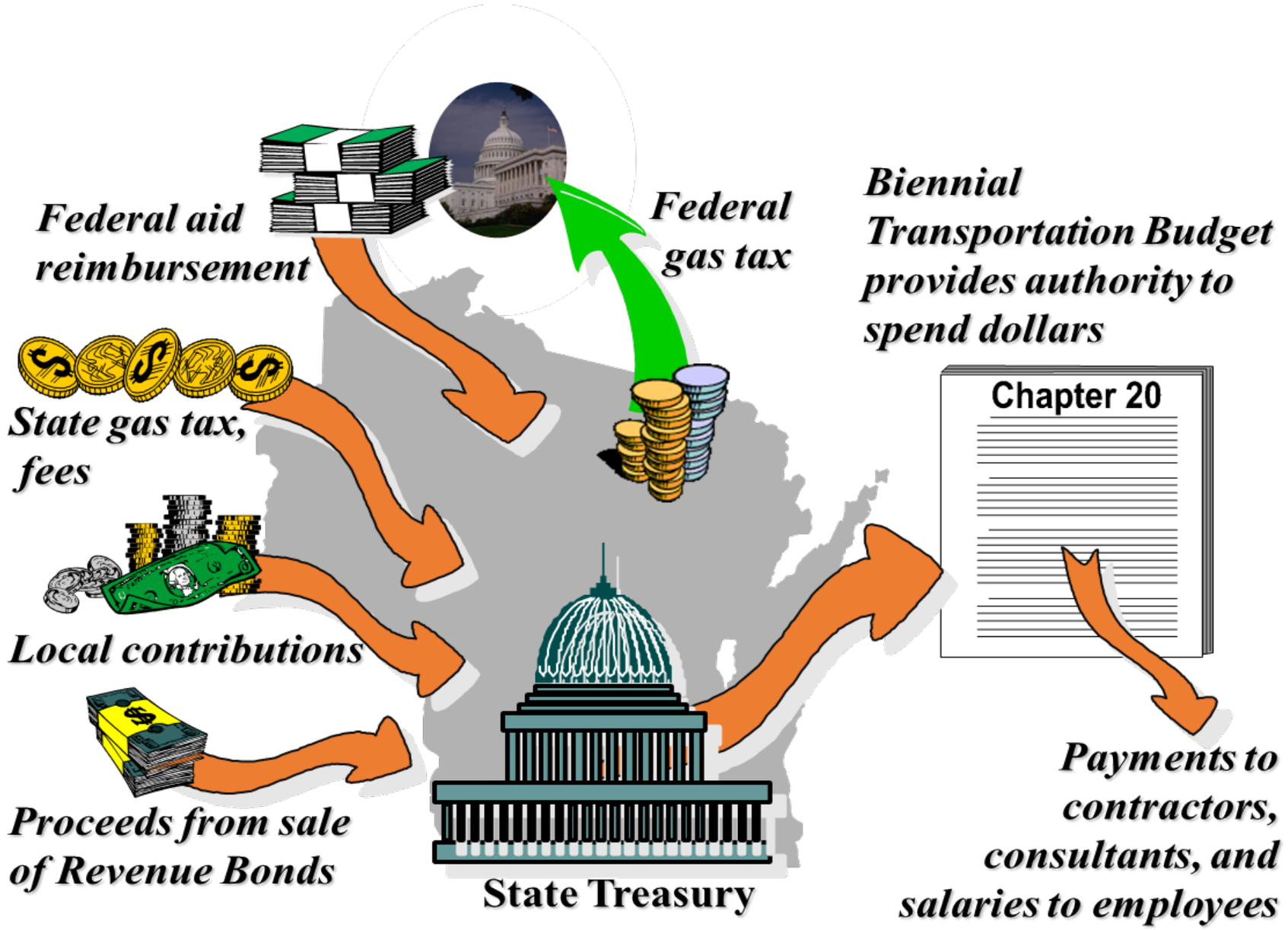
Transportation Stakeholder Task Force - Highways

Division of Transportation Investment Management
Bureau of State Highway Programs

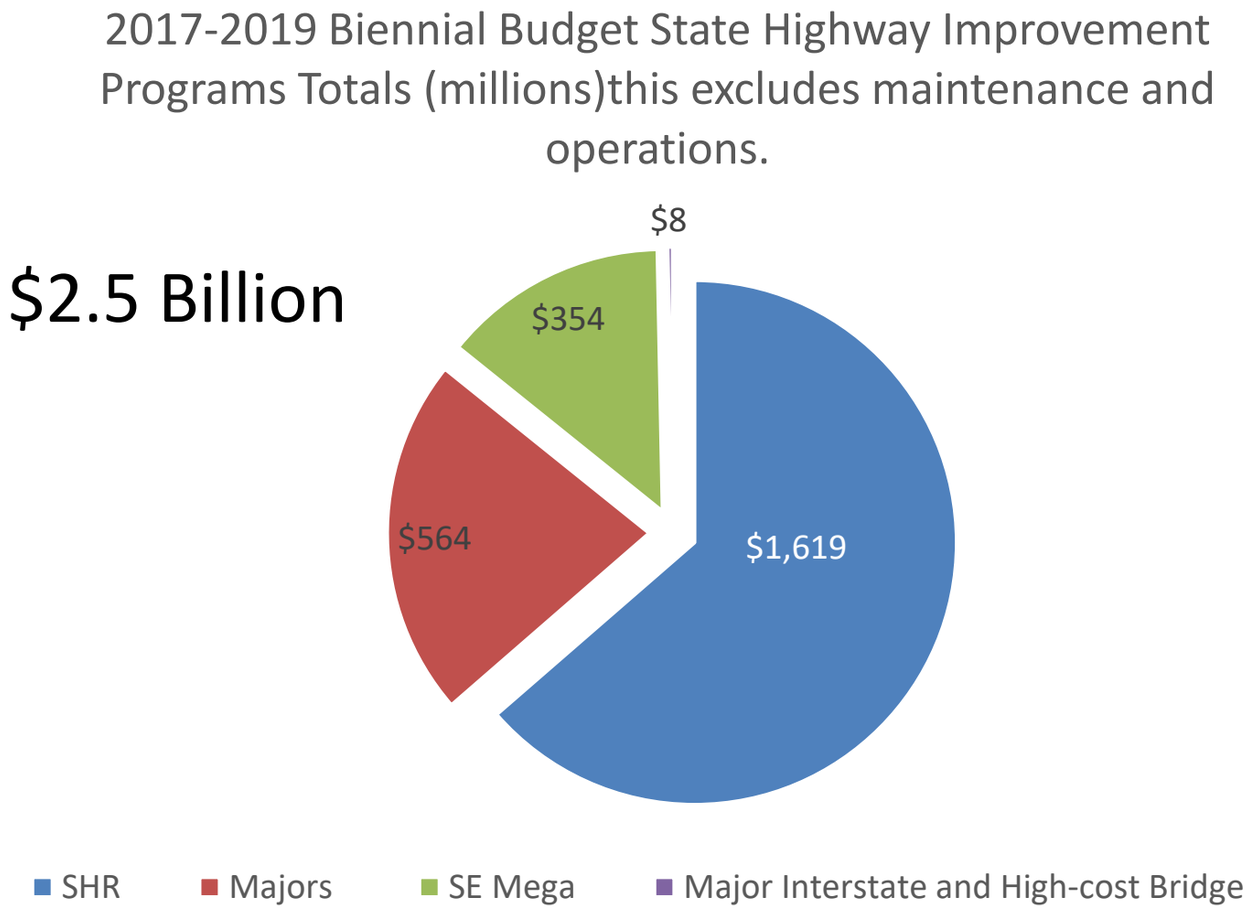
Jeffrey Gust
Bureau of State Highway Program Director

February 4, 2019

Biennial Budget Levels – Chapter 20

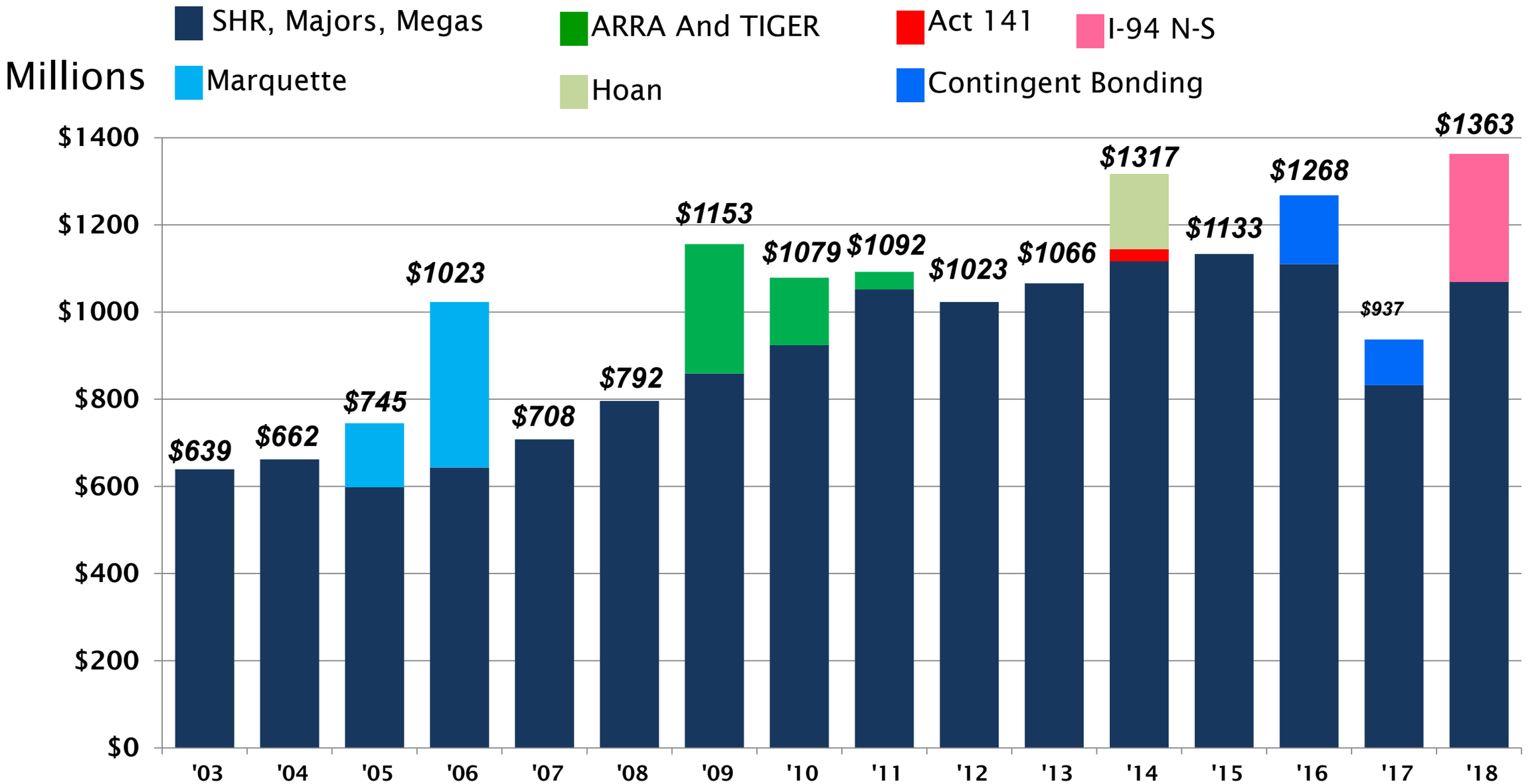


Biennial Budget Levels – 2017 Act 59 and Act 58



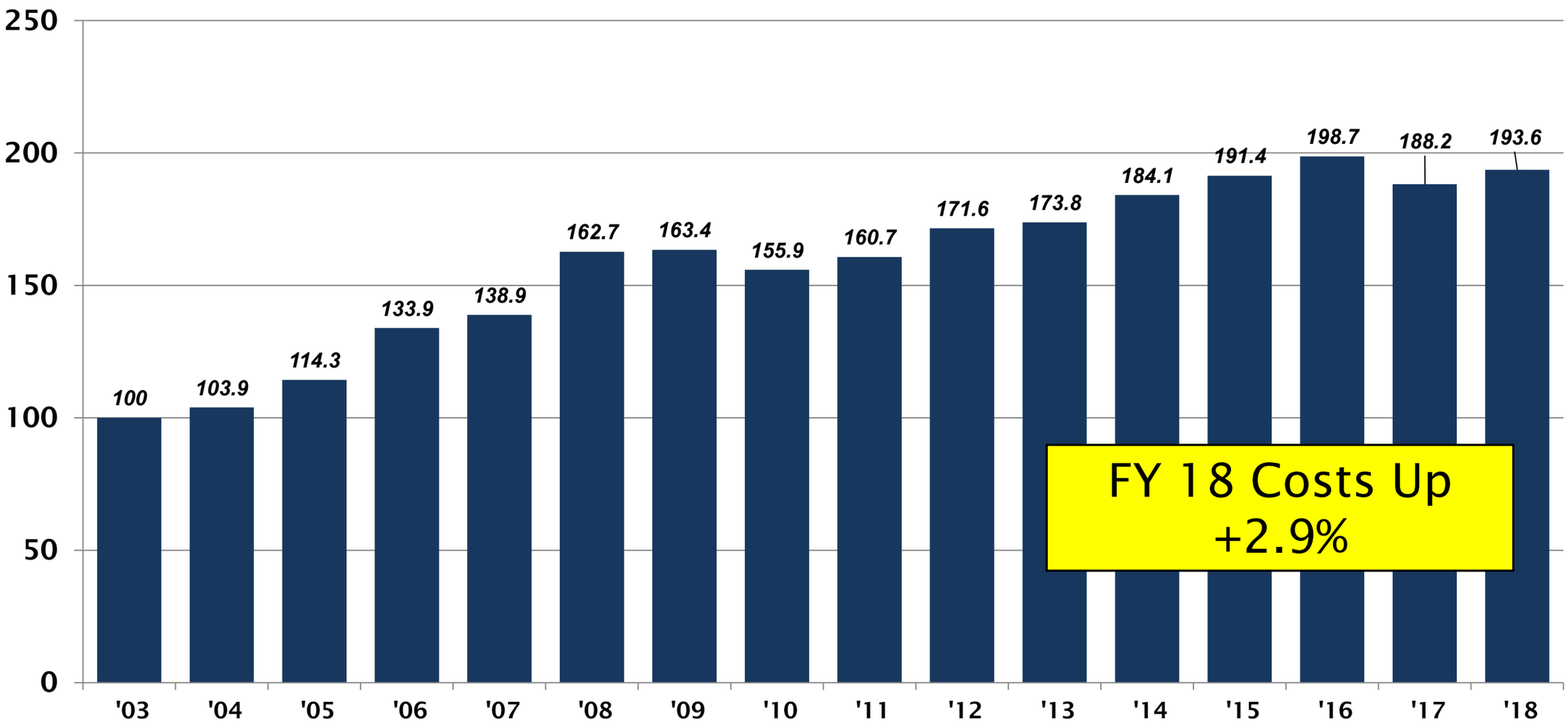
SE Mega includes 101.2 from Act 59 and 252.8 from Act 58

16 Year History Of Lets [Excluding Maintenance/Operations]



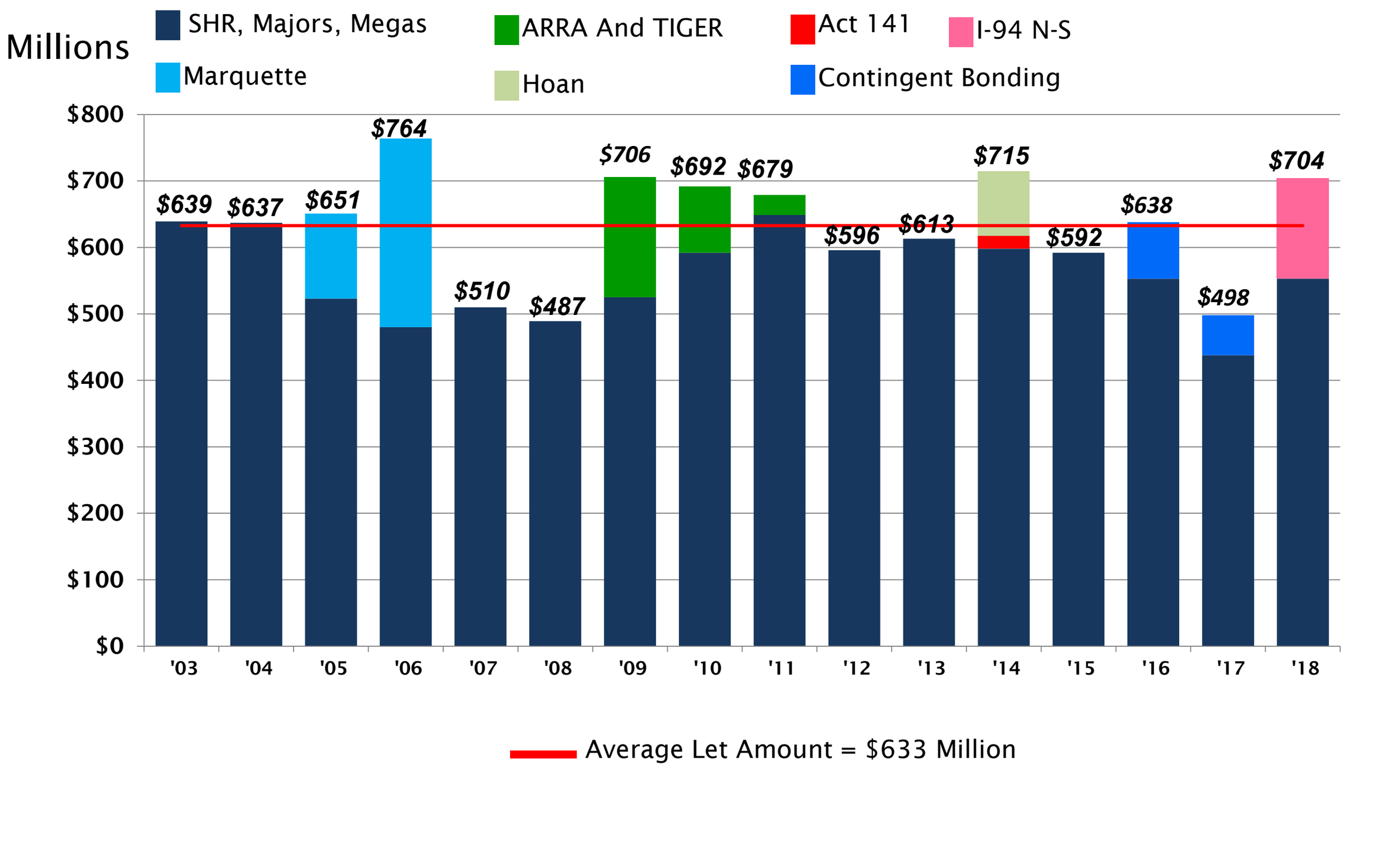
History Of Construction Costs

[Index 2003 = 100]



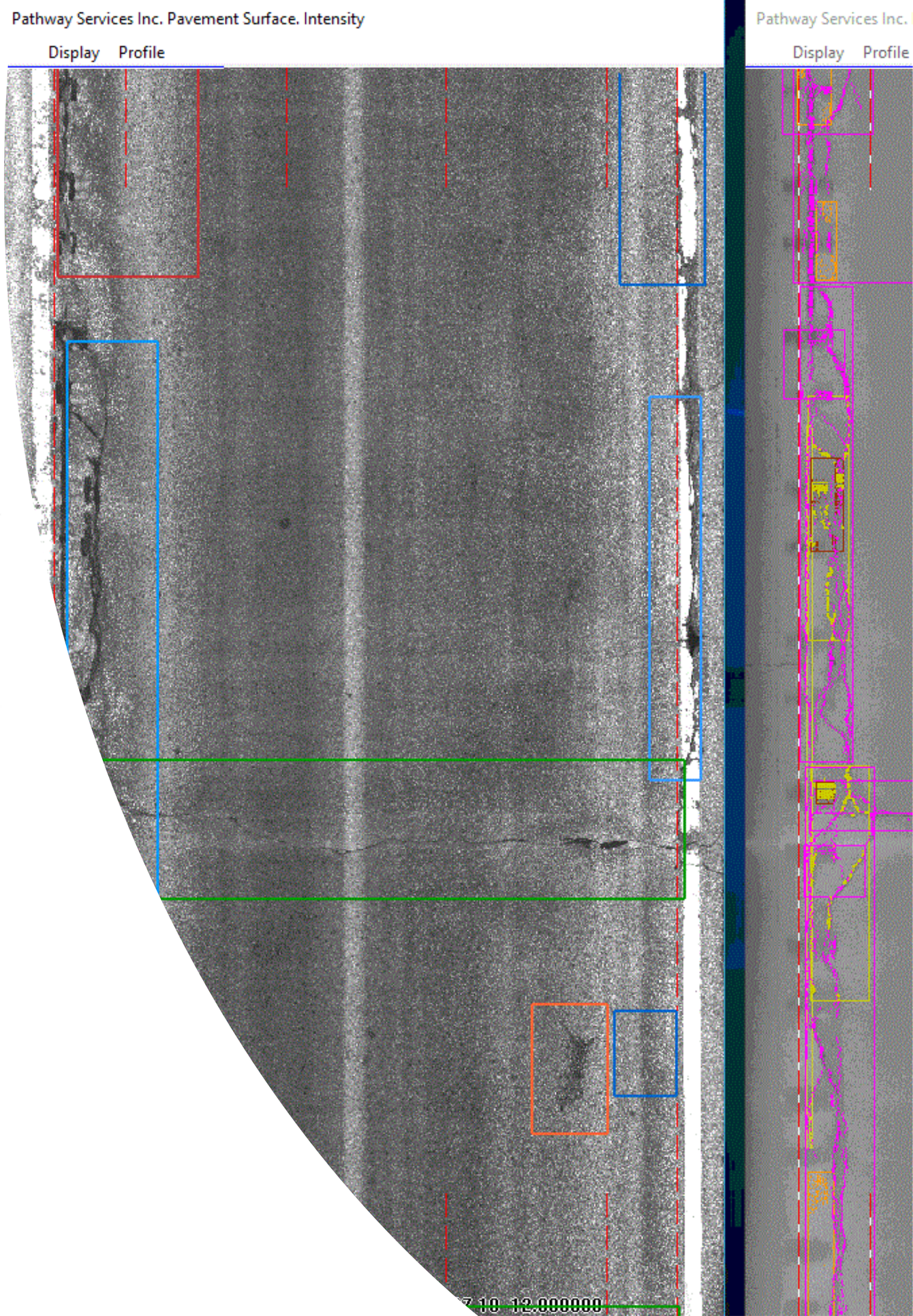
Let History In Constant Dollars

[Constant 2003$, Excluding Maintenance/Operations]

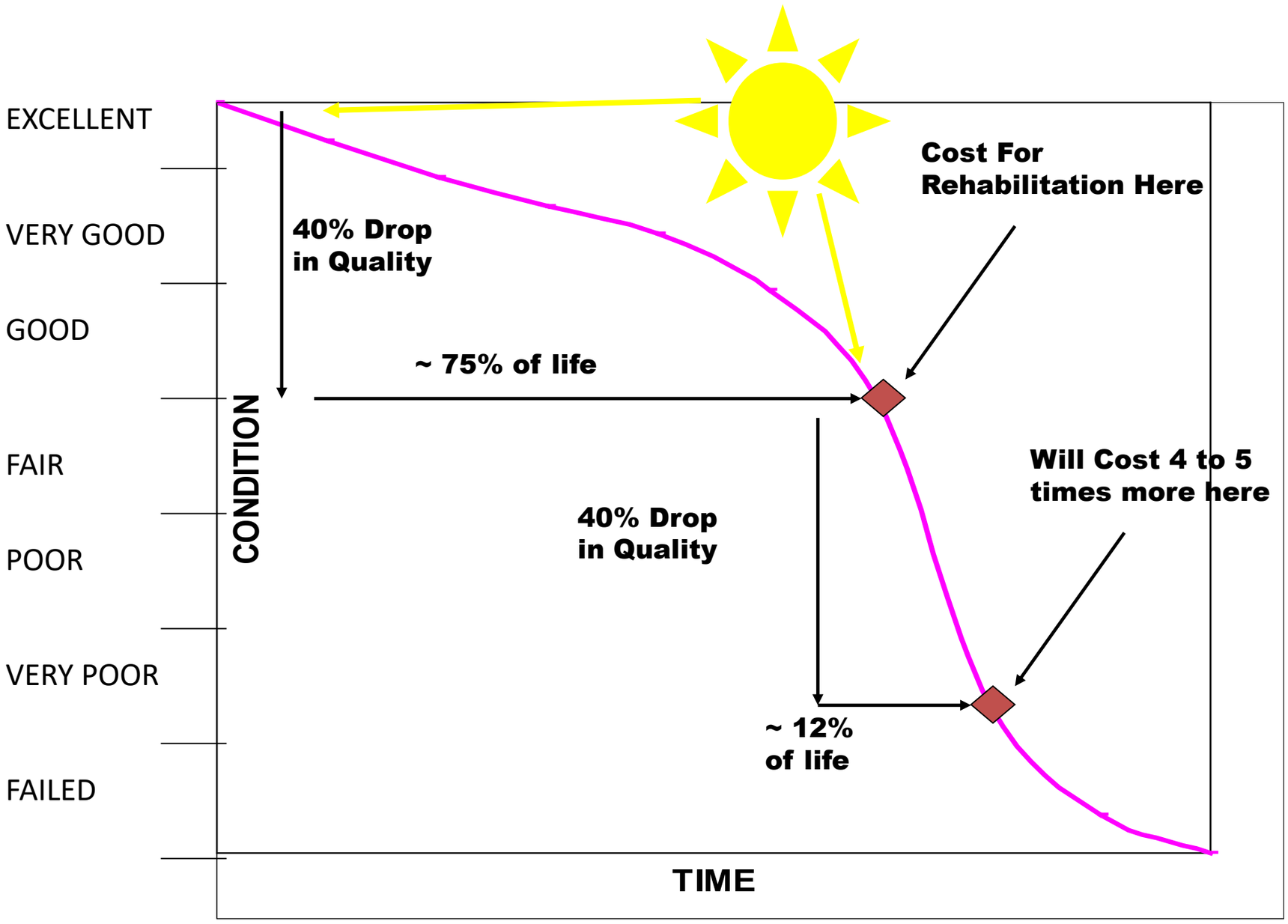


WisDOT's Transportation Asset Management Focus

- WisDOT has asset management in place for pavements and structures
- Preserve our assets and their whole life costs
- Operate in a financially sustainable manner
- Provide a framework to improve performance on a long-term basis using a comprehensive suite of data systems:
    - Safety data
    - Pavement conditions
    - Bridge conditions
    - Volume data

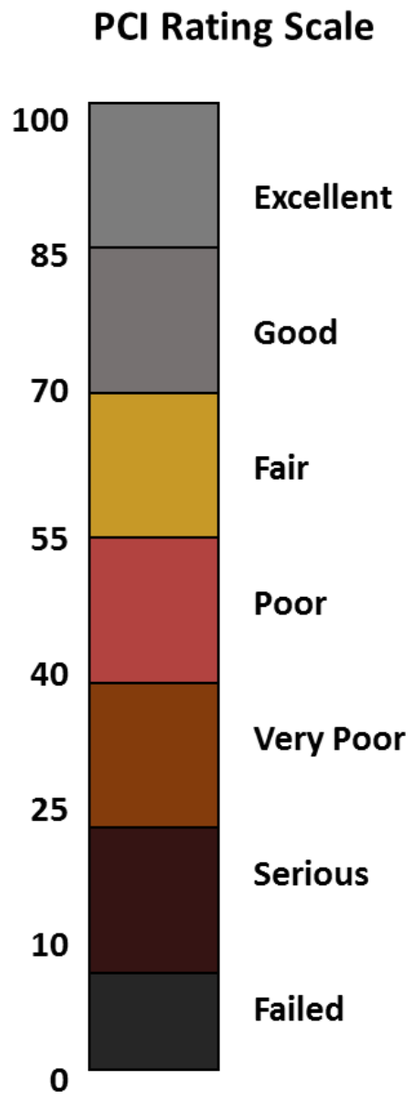


Typical Pavement Condition Life Cycle



Pavement Condition Index - PCI

- Nationally accepted standard for pavement assessment (ASTM D6433) developed by the Army Corps of Engineers
- Uses detailed pavement distress survey that identifies over 30 individual distress types rated by severity and extent
- Why use PCI instead of IRI?
  - IRI measures pavement roughness, not pavement condition.
  - IRI cannot be used to identify the underlying distresses causing declining conditions
  - DOTs are required to report IRI to FHWA, which makes it useful as an assessment of pavement at a national level…
  - In past national comparisons of IRI, Wisconsin has been portrayed as having poor condition roadways.



Pavement Condition Index - PCI

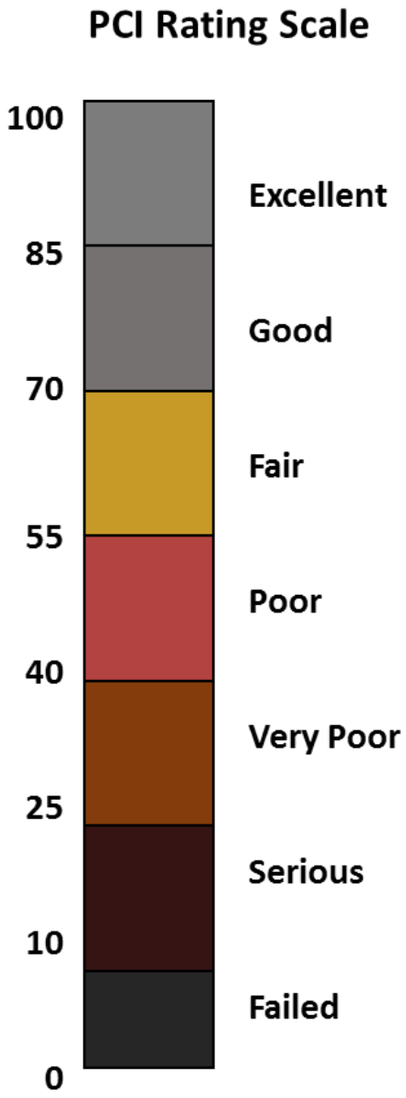
Excellent

Good

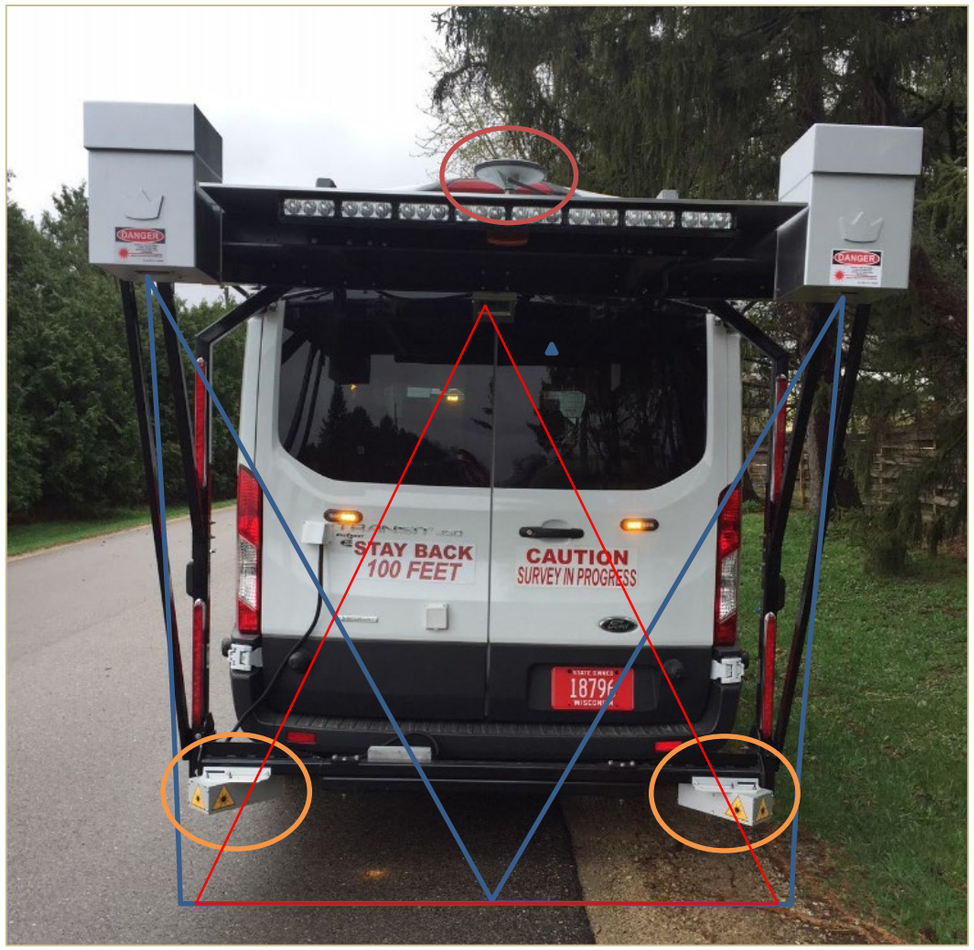
Fair

Poor

Very Poor



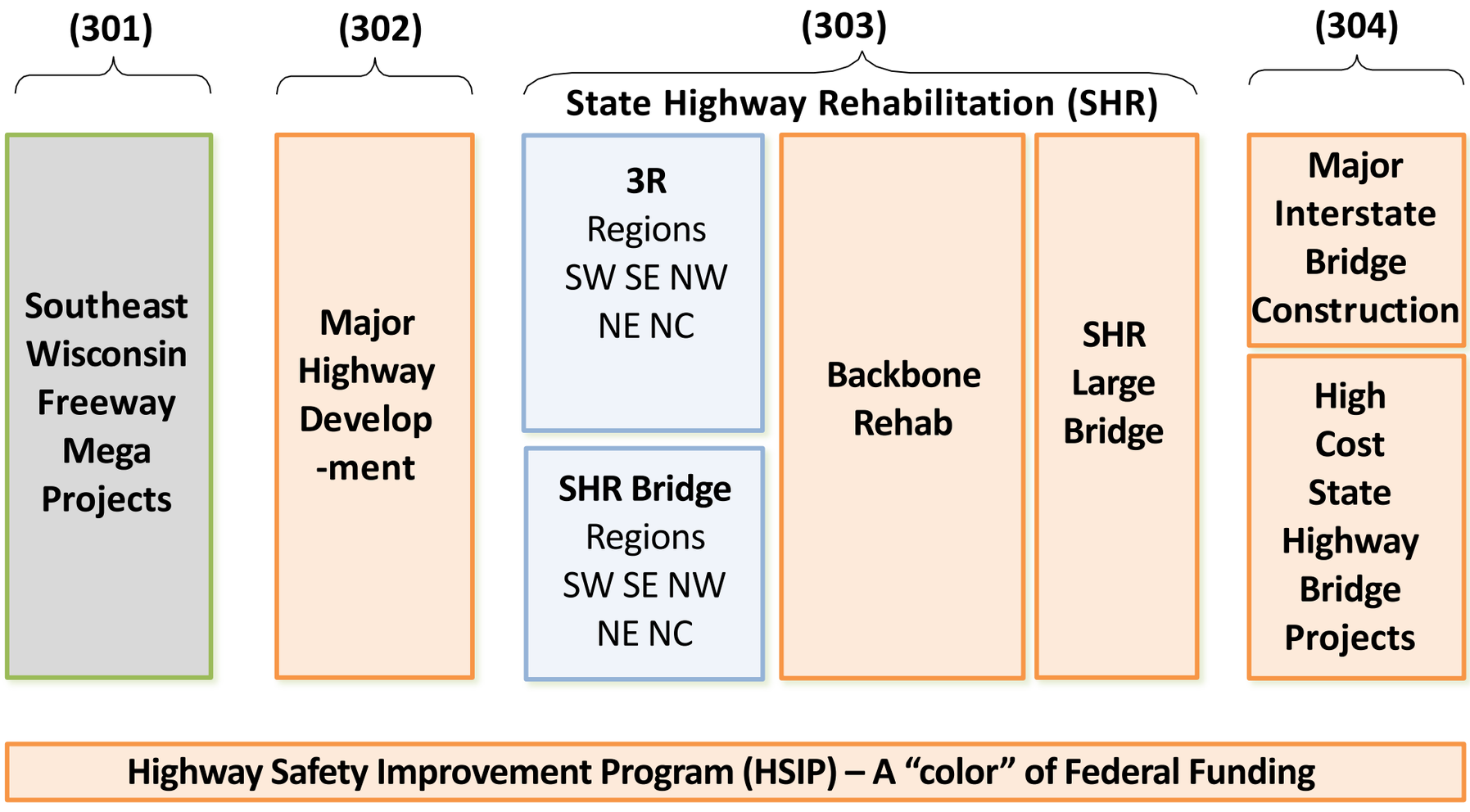
Pavement Condition Data Collection



- 3D images (downward-facing)
- Laser-based Longitudinal/Transverse Profile
- Faulting
- Rutting
- International Roughness Index (IRI)
- Location data
- Roadway Geometries
  - grade, cross slope, curve

Establishing Program Budgets

Each legislative improvement subprogram is funded separately through the state's biennial budget

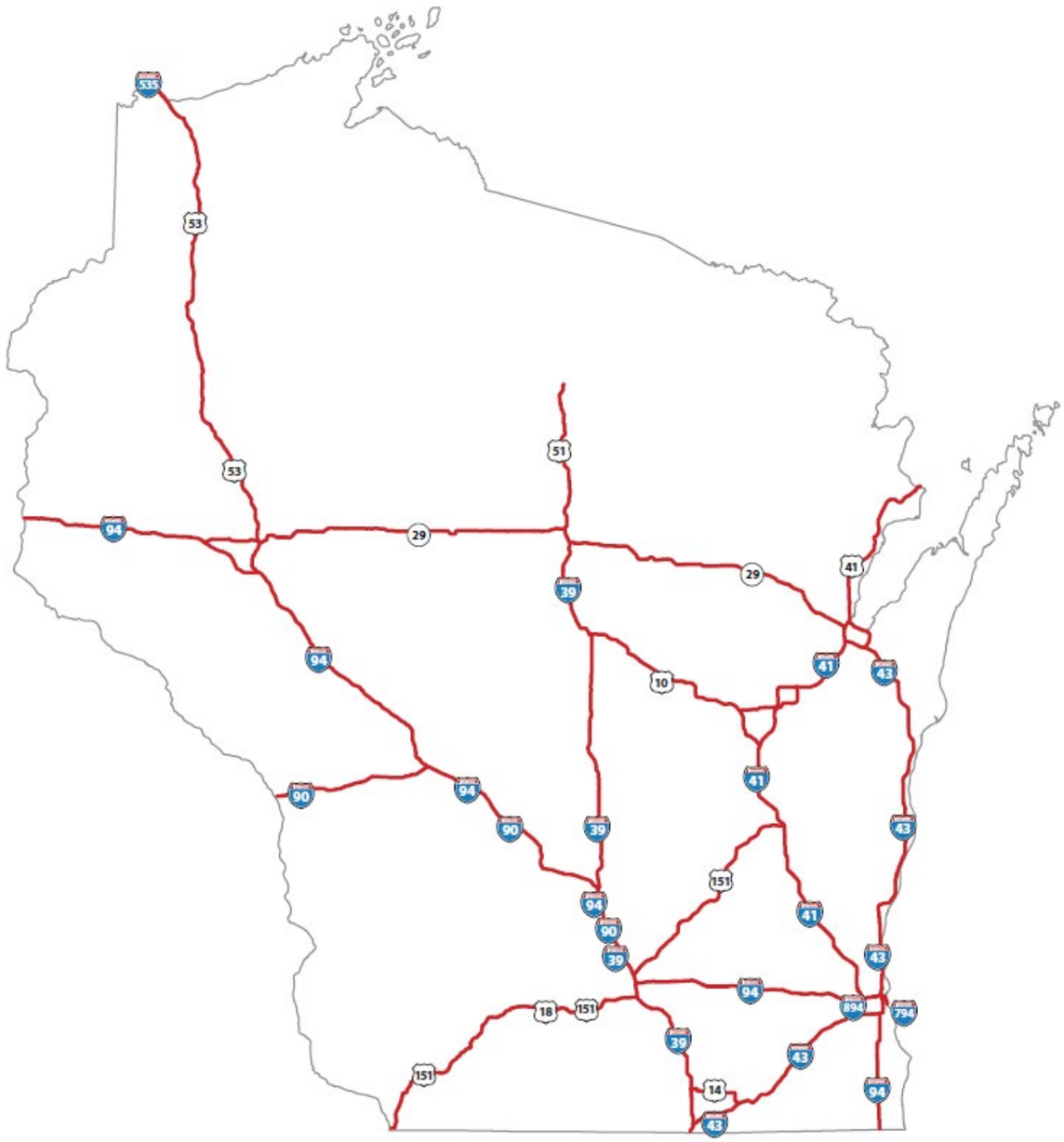


State Highway Rehabilitation (SHR) Programs – 303

- Funds preservation, rehabilitation, and replacement work on all state-owned pavements and bridges
- SHR is divided into several WisDOT improvement subprograms
- DTIM and DTSD work jointly across all programs to develop and implement, but some are regionally managed by DTSD staff and others are centrally managed by DTIM staff:
  - Regionally Managed:
    - 3R (Resurface, Restoration, Rehabilitation)
    - SHR Bridges
  - Centrally Managed:
    - Backbone Rehabilitation
    - Highway Safety Improvement Program (HSIP)
    - SHR Large Bridge
- Typical treatments funded using SHR include:
  - Crack sealing, patching, mill and overlay
  - Minor improvements to alignment to address safety
  - Pavement replacement to address critical pavement needs

State Highway Backbone System

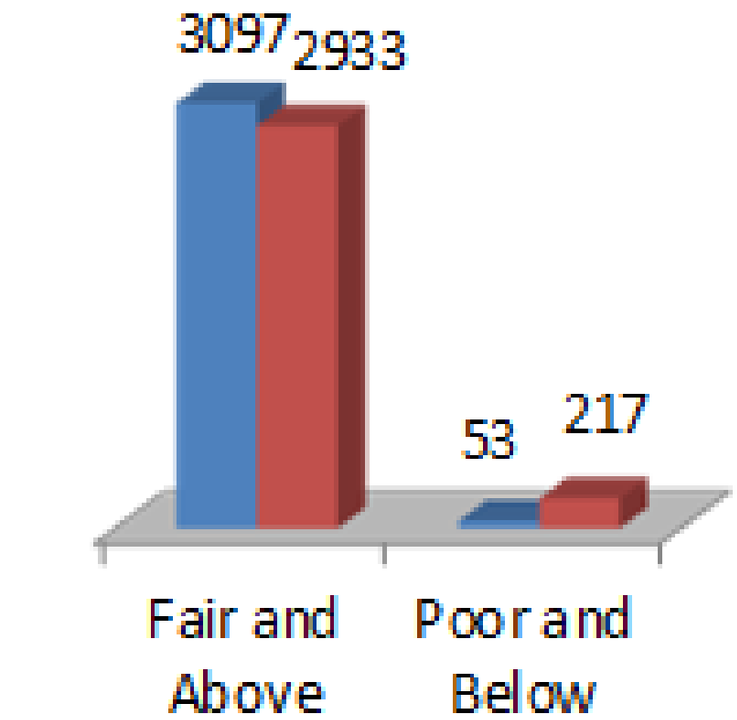
- 1,590 centerline miles of STN
- 14% of STN centerline miles
- 49% of traffic on STN
- 85% of freight tonnage on STN



Backbone System Condition

System condition (Pavement Condition Index) resulting from a 10-year analysis 2020 – 2029

Base Budget Scenario (no additional funds)

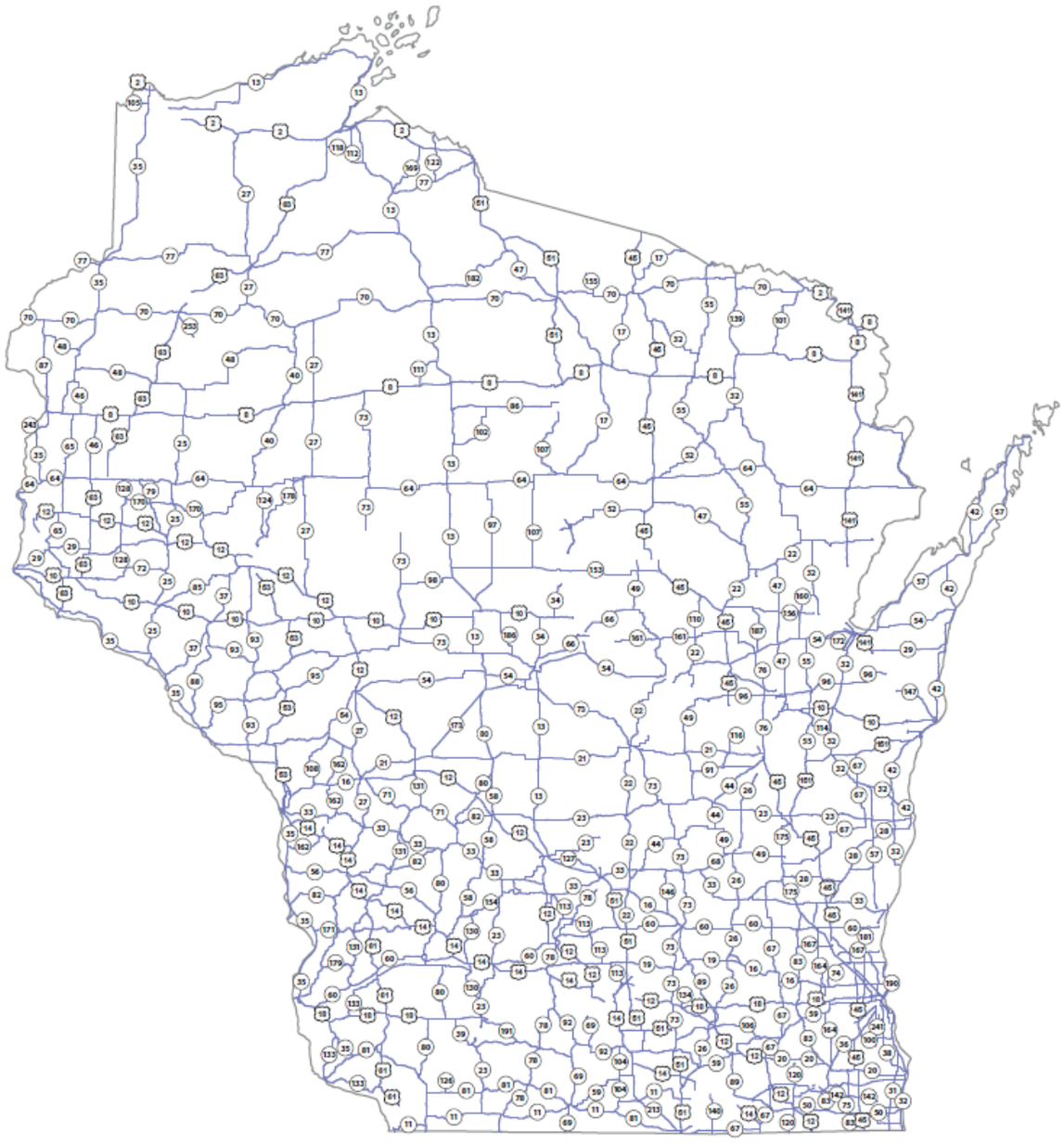


98.3% in fair and above at beginning of FY 2020

93.1% in fair and above at beginning of FY 2029

State Highway Non-Backbone System (3R)

- 10,170 centerline miles of STN
- 86% of STN centerline miles
- 51% of traffic on STN
- 15% of freight tonnage on STN



3R System Condition

System condition (Pavement Condition Index) resulting from a 10-year analysis 2020 – 2029

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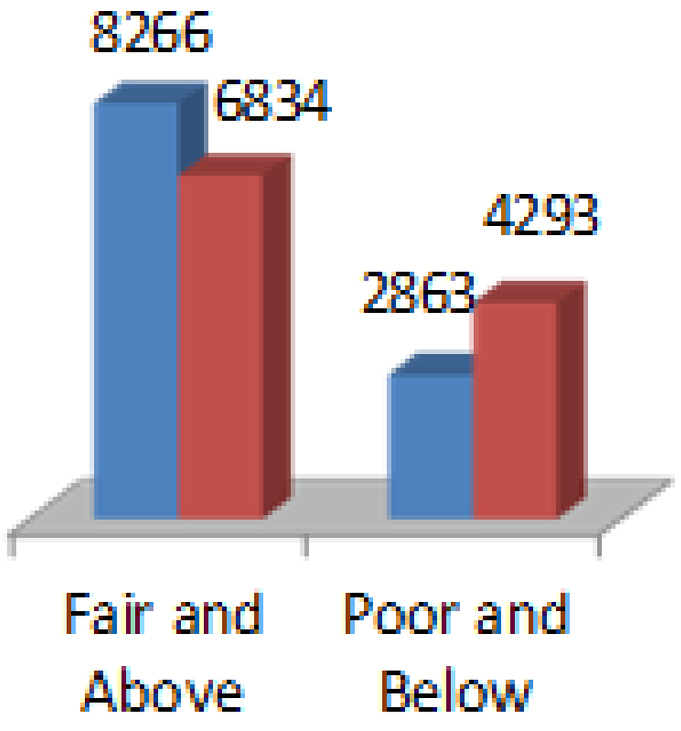


74.3% in fair and above at beginning of FY 2020

61.4% in fair and above at beginning of FY 2029

Poor and Below miles increase by 50%

Major Highway Improvement Program – 302

- Funds expansion or high-cost rehabilitation projects that meet specific legislatively-defined criteria:

  - *Expansion*:
    - Total Cost more than $36.4 million
    - One of the following:
      - Constructing a New Highway for 2.5 miles or more
      - Adding lanes for 5 miles or more
      - Converting 10 or more miles of expressway to freeway

  - *High-cost Rehabilitation*:
    - Total Cost more than $91.1 million

- Projects are recommended by the Transportation Projects Commission (TPC) and must be enumerated in state statute to be eligible for Majors Program funding

Major Highway Improvement Program – 302

- Active projects reported to the TPC, legislative committees, and transportation stakeholders through the semi annual TPC Report with scheduled costs include:
- Highlighted projects have ongoing construction and STH 23 is scheduled to start construction in summer of 2019.

USH 10: USH 10 – USH 10/ STH 441

STH 15: STH 76 – New London

USH 18/151 Verona Road

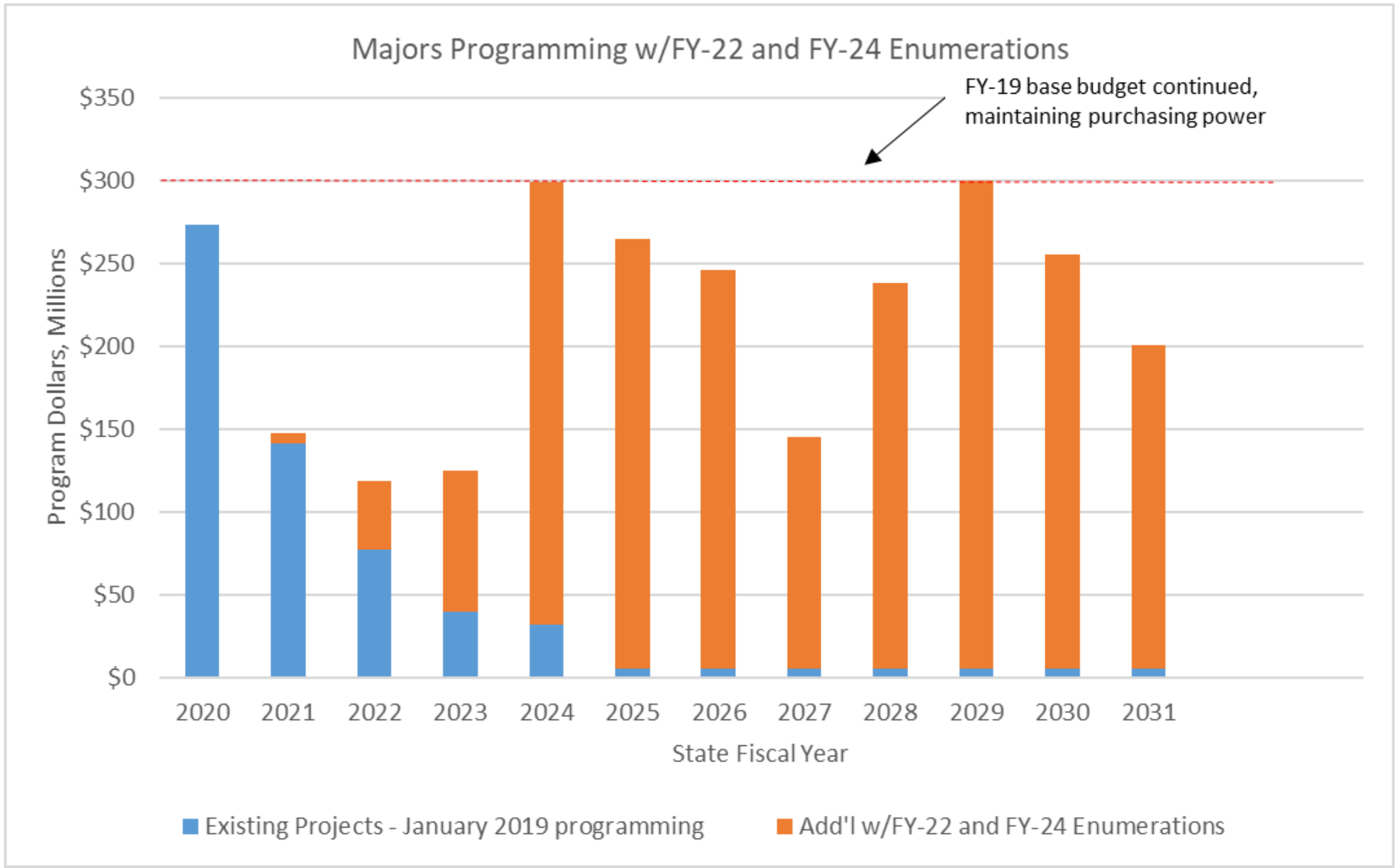
STH 23: STH 67 – USH 41

I 39/90: USH 12 to Illinois

STH 50: I 94 – 43rd Avenue

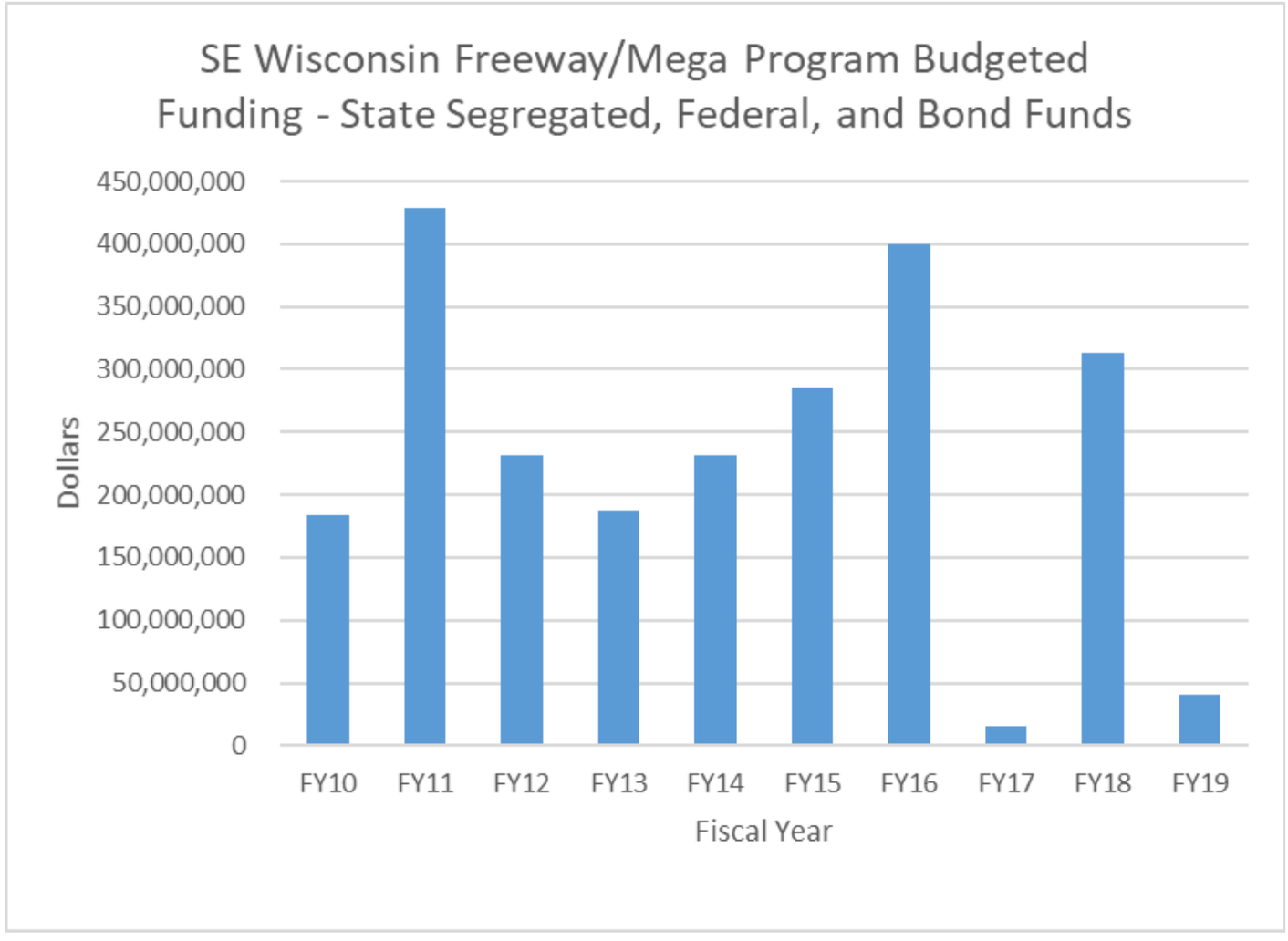
USH 53: La Crosse Corridor

Major Highway Improvement Program – 302



Southeast Wisconsin Freeway Mega Program – 301

- Funds high-cost projects that meet specific legislatively-defined criteria:
  - A project on a Southeast Wisconsin freeway
  - Total project cost of $500 million (plus annual adjustment factor)
- Projects must be enumerated in state statute
- Program is largely project-driven, resulting in inconsistent program levels…making long-range planning difficult
- Active projects reported to the TPC, legislative committees, and transportation stakeholders through the biannual TPC Report include: Zoo Interchange, I-94 N-S



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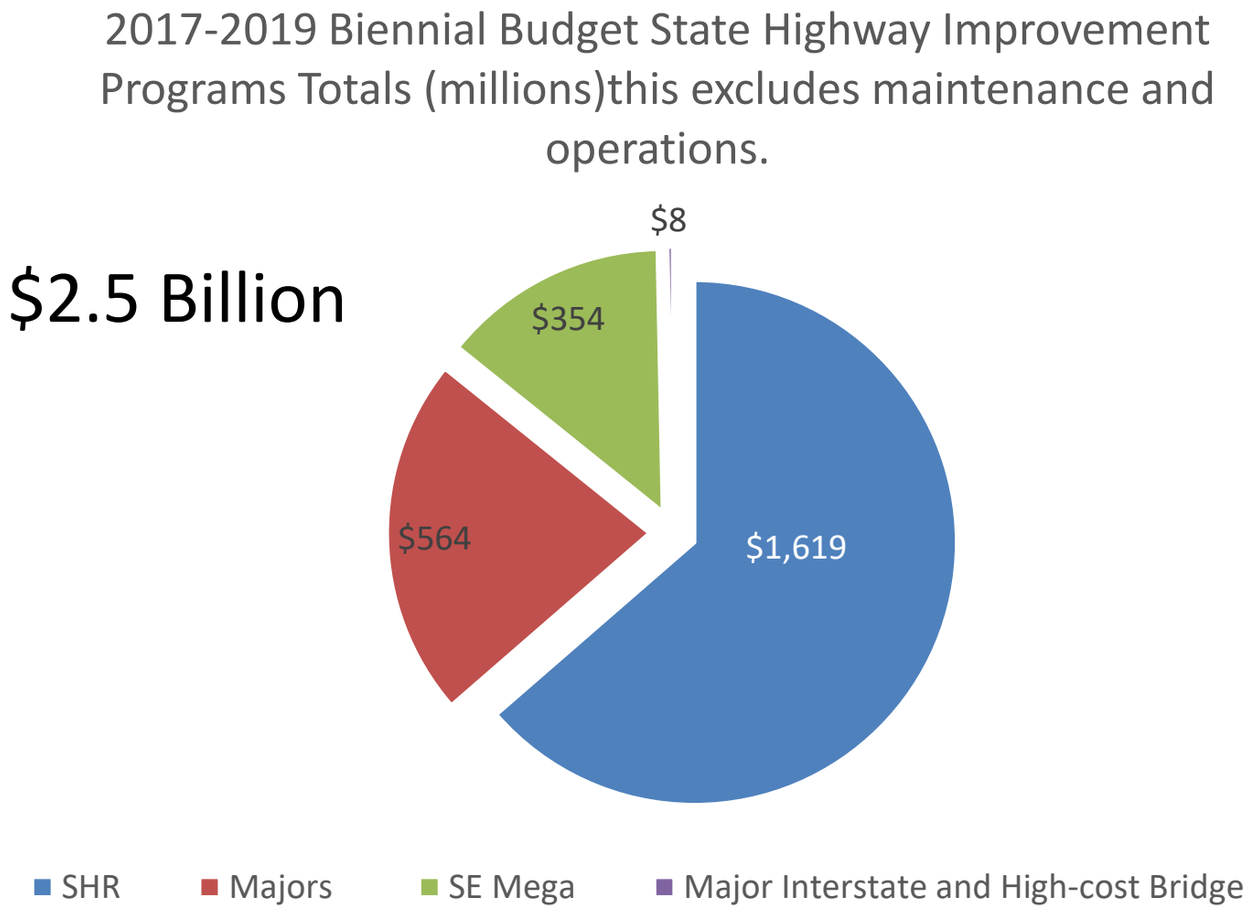

SE Mega includes 101.2 from Act 59 and 252.8 from Act 58

Challenges

- Insufficient funding to meet system needs
- Balancing roadway and structure needs
- Being in a period of construction cost inflation.

Policy/Budget Opportunities

- Increased funding would change the decline of pavement conditions in the SHR Program

- Approximately $180 million per year will maintain current system conditions

- Additional 3R funding would allow us to choose more best value solutions instead of lowest cost.