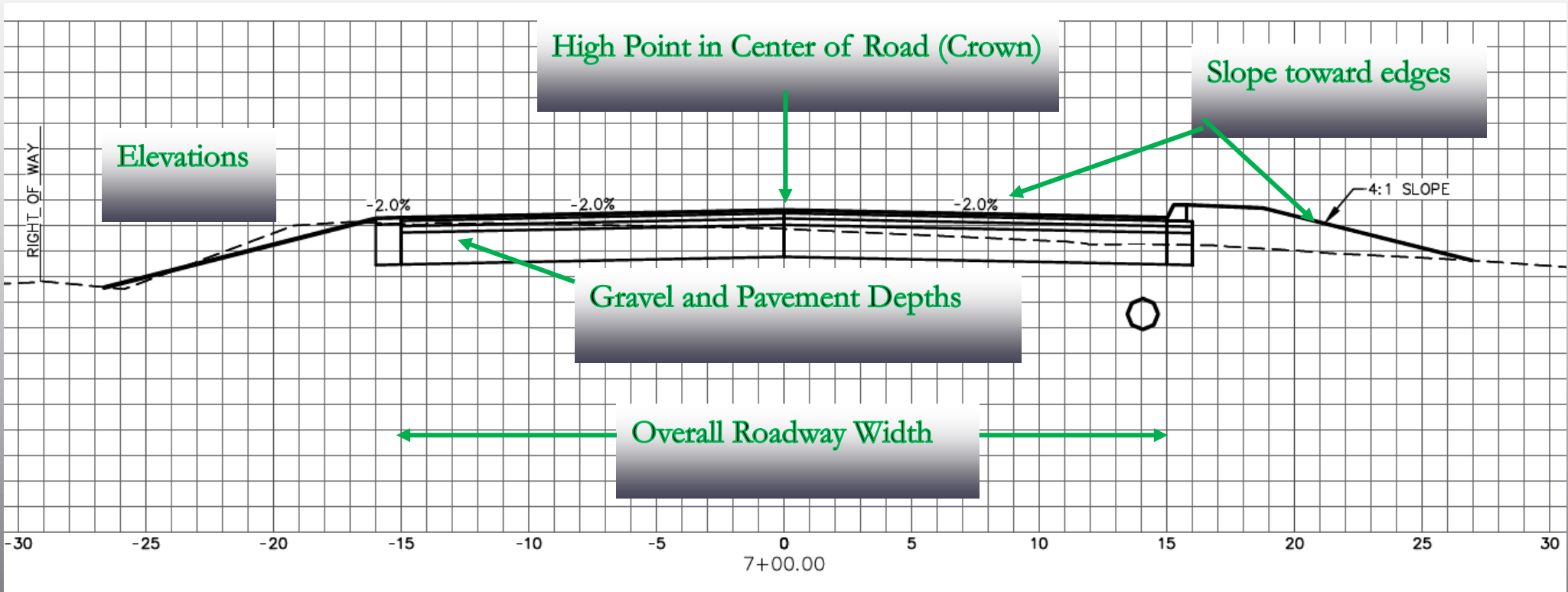


Overview

- Terminology
- Project Improvement Types
- Pavement Condition
- Road work in Falmouth

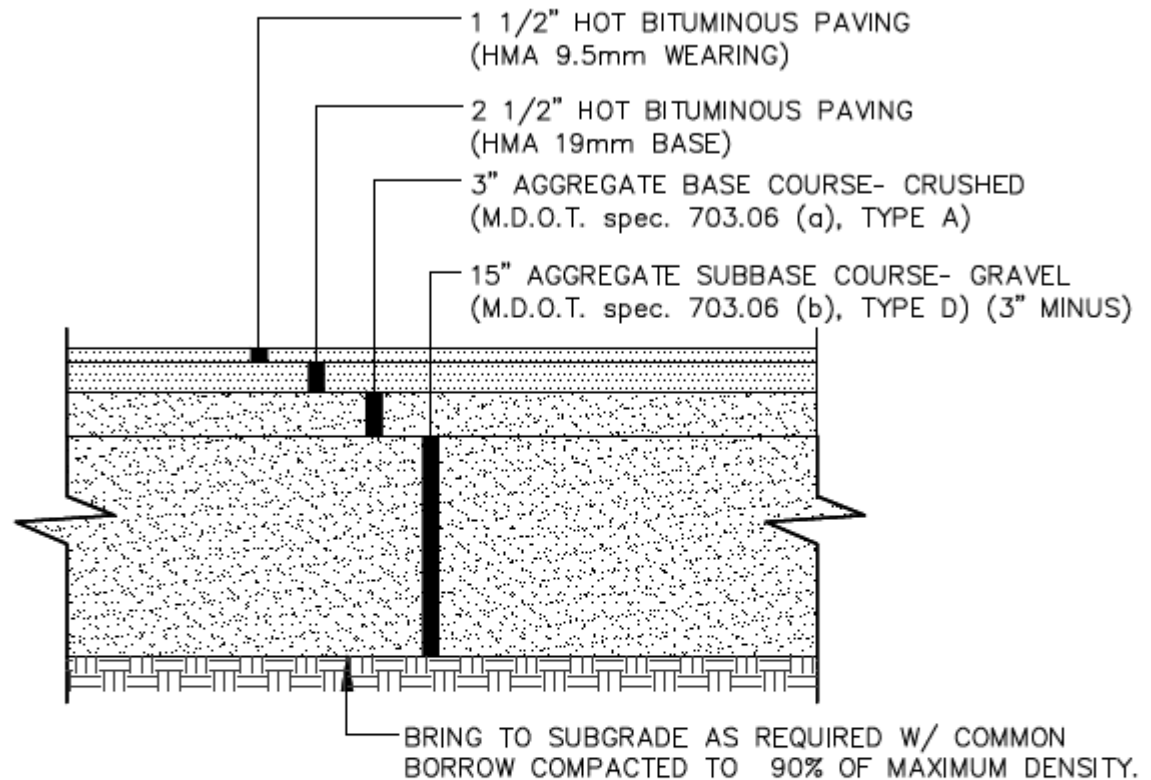
Road Construction Terminology

“Cross-Section”



Gravel and Pavement Depths

Roadway Section Specifics



NOTES:

1. COMPACT GRAVEL SUBBASE, BASE COURSE TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

TYPICAL ROADWAY SECTION

NOT TO SCALE

Road Treatment Types

- Crack Sealing
- Light Capital Paving
- Pavement Overlay
- Mill and Overlay
- Road Reclamation (Reclaiming)
- Road Rehabilitation
- Road Reconstruction

Crack Sealing

Major Characteristics

- Asphalt/Rubber Sealant
- Fills Cracks
- Eliminates water infiltration, minimizes further cracking, lessens frost heaving
- Short term fix
- Does not address underlying road deficiencies

Examples in Falmouth

- Bentrige Drive
- Woodville Rd. (2011)



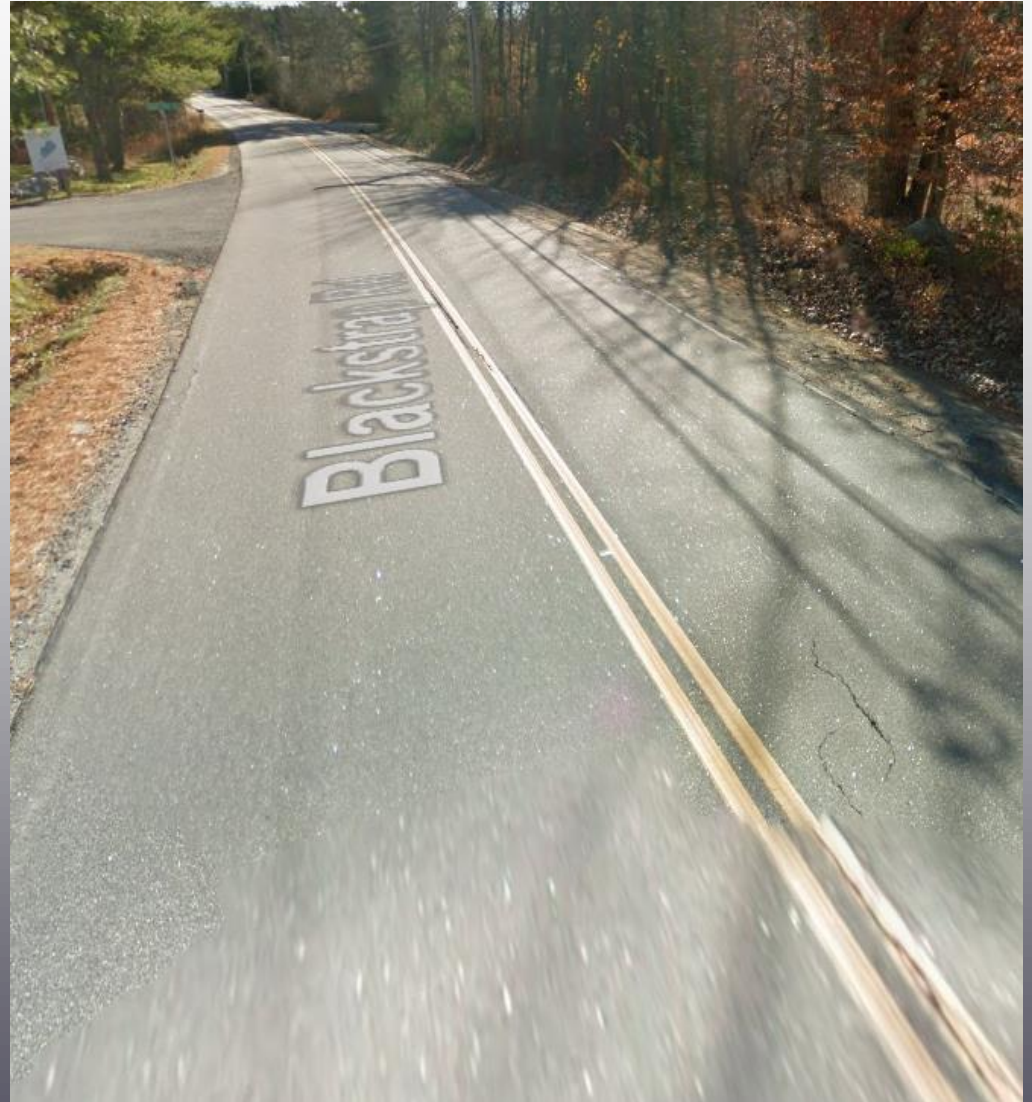
Light Capital Paving

Major Characteristics

- Thin layer of new pavement
- 5/8" to 1" in thickness
- Provides new wearing surface
- Lower cost than pavement overlay
- Short term fix: 2-6 year lifecycle

Examples in Falmouth

- Gray Road. (2018, MDOT)
- Blackstrap Rd. (2018, MDOT)
- Blackstrap Rd. (2010, MDOT)



Pavement Overlay

Major Characteristics

- Full layer of new pavement
- 1" to 1-1/2" pavement thickness
- 10-20 year life cycle
- Cost effective when applied at the correct time.

Examples in Falmouth

- Foreside Road (2019)
- Bucknam Road (2019)
- Avon Road (2019)



Mill and Overlay

Major Characteristics

- Removal of top layer existing pavement (surface layer)
- Pavement Overlay
- Applied when gravel, drainage, and base-pavement are adequate; but surface pavement is not.
- Milling increases longevity of the pavement overlay

Examples in Falmouth

- Route 1 (2015)
- Route 1 (2016, MDOT)



Road Reclamation (Reclaim)

Major Characteristics

- Removal of existing pavement
- Reuse of ground pavement as gravel
- Reshaping and contouring of road cross-slopes.
- Two new layers of pavement:
 - Base and surface pavement

Examples in Falmouth

- Longwoods Road (2007)



Rehabilitation

Major Characteristics

- Partial Road Reconstruction
 - Reclaim Road
 - Widen/pave shoulders
 - Drainage Improvements
 - Sidewalk Improvements

Examples in Falmouth

- Blackstrap Road (2019)
- Hurricane Road (2014)
- Blackstrap Road (2013)



Reconstruction

Major Characteristics

- Complete Road Rebuild
 - Removal of pavement
 - Removal of gravel
 - Utility work
 - Drainage system upgrades
 - Driveway changes
 - Side-slope work
 - New Streetscape features
 - New gravel/pavement

Examples in Falmouth

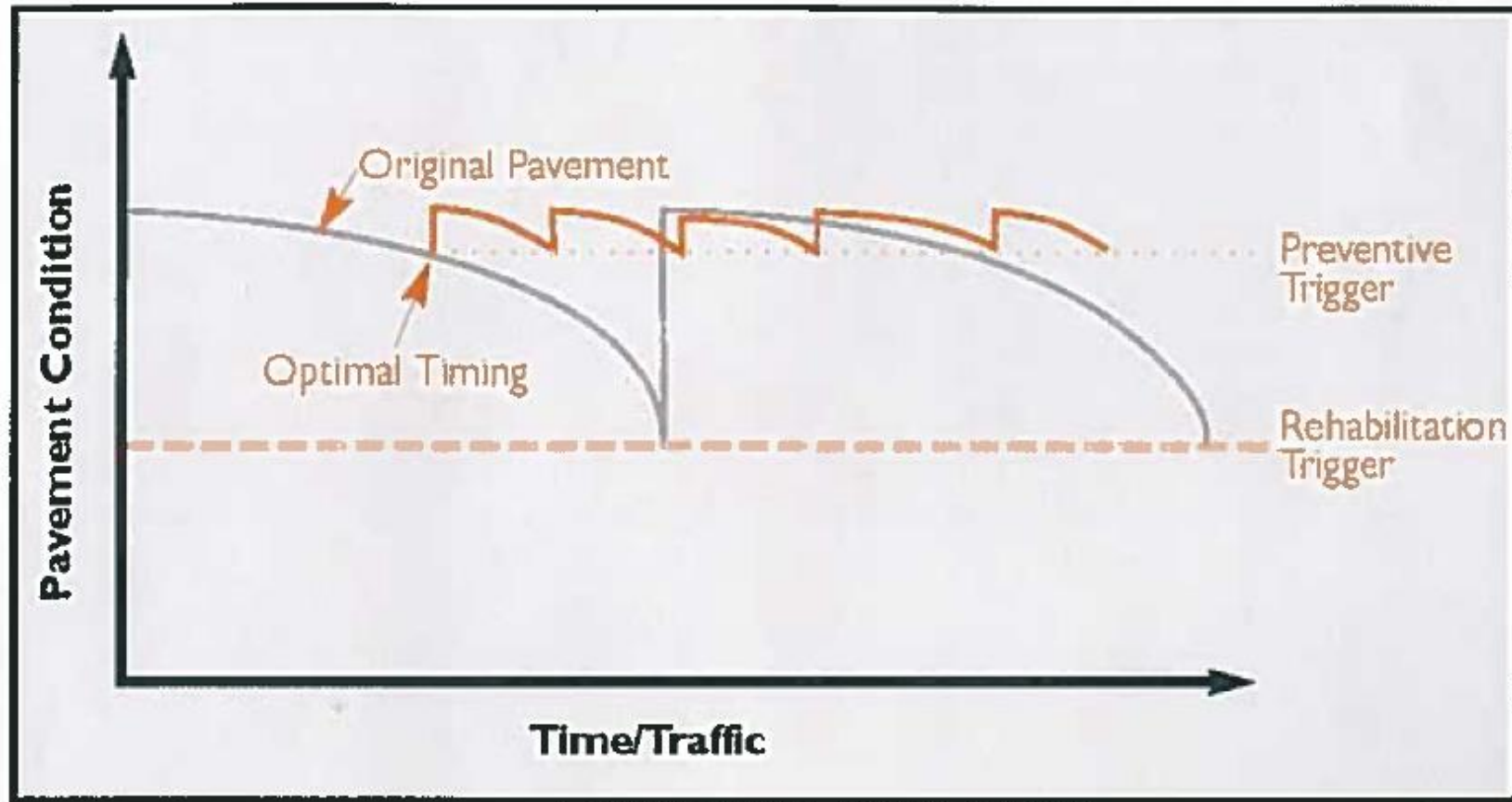
- Route 100 (2019-20)
- Middle Rd. (2016 and 2017)
- Blackstrap Rd. (2014)



Road Treatment Types and Relative Costs (per foot)

- Crack Sealing ➤ \$1.00
- Light Capital Paving ➤ \$7.00
- Pavement Overlay ➤ \$50.00
- Mill and Overlay ➤ \$90.00
- Road Reclamation ➤ \$100.00
- Rehabilitation ➤ \$130.00
- Reconstruction ➤ \$220.00

Pavement Condition: Deterioration Curve Basics



The Pavement Deterioration Curve

Above is a model of how a road's pavement deteriorates over time. Interpreting the curve, a road starts out in excellent condition when it is newly constructed. Midway through its life, **a low-cost repair such as a pavement overlay will cost one quarter to one-fifth of the cost to rehabilitate or reconstruct the road in later years.**



Ledgewood Drive, circa 1980

Crack Seal, Pavement Overlay,
or Reconstruction?!

