



Department of Public Works Road Resurfacing and Drainage

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March 28, 2022



SELECTING A ROAD TO PAVE

- CIP budget amount for pavement and drainage
- Determine how much drainage work is required
- Current focus is primarily on collector roads
- Neighborhood road resurfacing in vicinity of a collector road being resurfaced can be done at same time if funds available
- A neighborhood road in very poor condition (pothole patching)



CURRENT PRACTICE

- Consult the 2015 Pavement Management Report and updated Pavement Condition Index numbers.
- Consult 2017 Complete Streets Policy
- Consider alternative surfacing options - use of cape seals in neighborhoods with good pavement conditions
- Consult the Town's MS4 Stormwater Management Plan
- Types of rehabilitation:
 - Full Depth Reclamation (\$300,000 to \$400,000 per mile)
 - Mill and Overlay (\$150,000 - \$250,000 per mile)
 - Overlay (\$100,000 - \$150,000 per mile)
 - Seals (\$60,000-\$125,000 per mile)
 - Crack sealing (spend \$25,000 - \$50,000 per year)



DRAINAGE

- A road involves more than pavement.
- Like our pavement, our drainage systems are old and need to be replaced. Most is over 40 years old and at or past life expectancy.
- Corrugated Metal Pipe (~25% of current piping) failing sooner than expected
 - Expected Service Life 60+ Years, experiencing less than 40 Years
 - Due to scaling of coating
 - Corrosive in-situ soil conditions
- Most of these old drainage systems do not properly address the existing stormwater issues which requires new work (more than just replacing existing)



DRAINAGE

- If we don't fix drainage issues, the new pavement won't last.
- Major crossings range \$400,000 or higher.
- Experiencing failures on roads not on 5 year paving plan (Codfish Falls Road).
- Work is done in-house (currently two crews)
- Major Crossings are bid out (Hillyndale Road)



CODFISH FALLS ROAD MARCH 2022





CODFISH FALLS ROAD MARCH 2022





GURLEYVILLE ROAD MARCH 2022





SUMMIT ROAD MARCH 2022





TOWN HALL PARKING LOT (FRONT)





TOWN HALL PARKING LOT (FRONT)





TOWN HALL PARKING LOT (REAR)





CATCH BASIN DESIGN





MAJOR DRAINAGE PROJECTS

- Some drainage sites are projects by themselves
- Can cost \$100,000 to \$500,000
- Culvert slip lining is an option
- Current locations needing attention (but there are many more)
 - Puddin Lane (\$200,000)
 - Birch Road (\$100,000)
 - Hunting Lodge Road (\$500,000)



HILLYNDALE ROAD BRIDGE



- Considered for Slip Lining in 1998
- Total Cost - \$530,000
 - ~\$260,000 (To be Paid by State)
- Project Timeline
 - Funding Identified in 2015
 - Bridge Application in 2016
 - Bid in 2020
 - Constructed in 2020/2021
- External Funding Extends Timelines



CULVERT SLIP LINING





PAVEMENT REHABILITATION METHODS

Method	Cost per mile	Life Performance
Full depth reclamation with new drainage system (FDR ND)	\$480,000	20 years +
Full depth reclamation with old drainage system (FDR OD)	\$340,000	10 years +
Overlay of new pavement with old drainage system	\$160,000	8 years
Double chip seal with old drainage (no drainage improvements)	\$80,000	7 years
Single chip seal with old drainage (no drainage improvements)	\$40,000	5 years

The best method for our roads is full depth reclamation with new drainage system. Note there is no mill and pave option – we have no roads for this method.



PAVEMENT APPLICATIONS

Application	History in Mansfield	Pros	Cons
FDR ND	Method since 2015	Durability Rideability Drainage addressed	Cost Drainage improvements take time
FDR OD		Durability Rideability	No new drainage installed Shorter lifespan
Overlay OD	Bassetts Bridge Rd eastern portion	Rideability Can do more roads	No new drainage installed Shorter lifespan
Double chip	Method prior to 2014	Can do a lot more roads	Low durability Susceptible to weather Drainage ignored
Single chip	Method prior to 2014	Can do a lot more roads	Low durability Susceptible to weather Drainage ignored

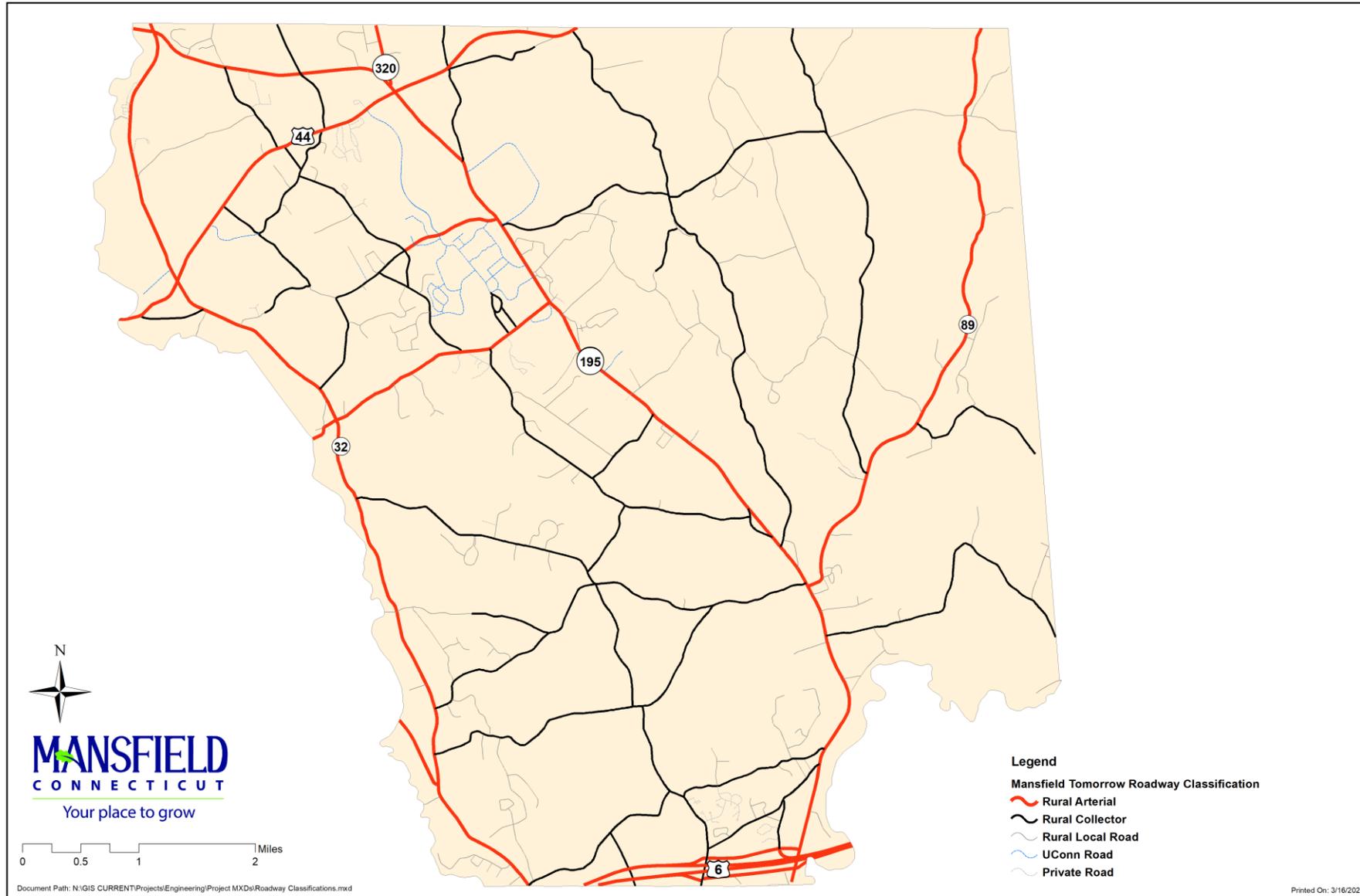


CURRENT ROAD NETWORK

Functional Classification	Centerline Miles	Area-Weighted Pavement Condition Index (2015)
Collector	49.6	69
Residential	50.8	65
Total	100.4	67



CURRENT ROAD NETWORK



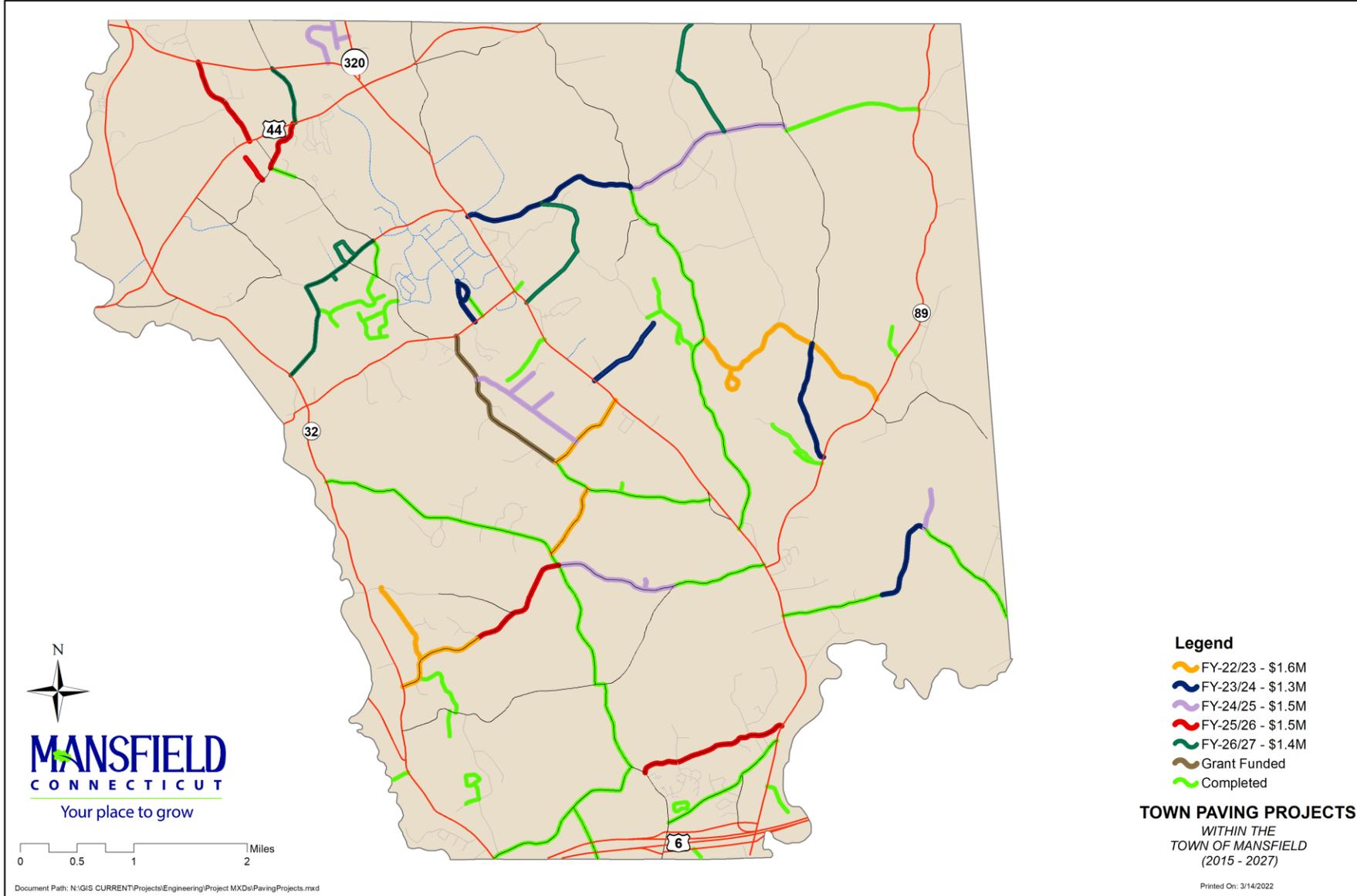


COLLECTOR ROADS

- Ash Street
- Atwoodville Road (portion)
- Bassetts Bridge Road
- Baxter Road (portion)
- Birch Road (portion)
- Bolton Road Extension
- Bone Mill Road (portion)
- Browns Road
- Bundy Lane (portion)
- Cedar Swamp Road
- **Chaffeeville Road**
- Charles Smith Way
- **Clover Mill Road**
- Codfish Falls Road
- Conantville Road
- Coventry Road (portion)
- Crane Hill Road
- Daleville Road
- Depot Road
- Dog Lane (portion)
- **Eastwood Road**
- Farrell Road
- Gurleyville Road
- Hillside Circle
- Hunting Lodge Road
- **Mansfield Avenue**
- **Mansfield City Road**
- Mansfield Hollow Road
- Maple Road
- Meadowbrook Lane (portion)
- Moulton Road
- **Mount Hope Road**
- North Eagleville Road
- **Pleasant Valley Road**
- Puddin Lane
- Royce Circle
- Separatist Road
- Spring Hill Road
- Westwood Road
- Wilbur Cross Way
- Wormwood Hill Road (portion)



5 YEAR PAVING PLAN





ROADS PAVED SINCE 2015

- Ash Street
- Bassetts Bridge Road (portions)
- Boulder Drive
- Browns Road (portion)
- Bousa Road (formerly unpaved)
- Birchwood Heights Road
- Candide Lane
- Chaffeeville Road
- Cider Mill Road
- Circle Drive
- Clover Mill Road (portion)
- Conantville Road (portion)
- Costello Circle
- Eastwood Drive
- Farmstead Road
- Hillcrest Drive
- Hillyndale Road
- Hunting Lodge (portions)
- Little Lane
- Lynwood Road
- Mansfield Avenue
- Mansfield City Road (all but one section)
- Meadowbrook Lane
- Oak Drive (formerly unpaved)
- Philip Drive
- Pleasant Valley Road
- Spring Hill Road (portion)
- Thompson Road
- Transfer Station and Park Road
- Ridge Road
- Riverview Road
- Woods Road (portion)
- Woodmount Road



CAPE SEAL

- Use on moderately distressed residential roads
- Must not have severe drainage/puddling issues.
- Plan for Fiscal Year 2022/2023 is \$500,000 for 10 neighborhood roads.



CONCERNS FROM CITIZENS

BEFORE AND AFTER PAVING

- **Before**

- Potholes and frost heaves
- Road shoulders in disrepair
- Safety for pedestrians and bicyclists

- **After**

- Vehicle speed
- Widths of roads are too narrow/too wide
- Can I get a speed hump in front of my house?
- Safety for pedestrians and bicyclists



OTHER CONSIDERATIONS

- Curbing
- Aprons
- Sidewalks
- Signs
- Striping
- Lights
- Guide rail
- Utilities



Questions?