



City of Delaware

Prepared April 21, 2023

by

City of Delaware
Public Works Department

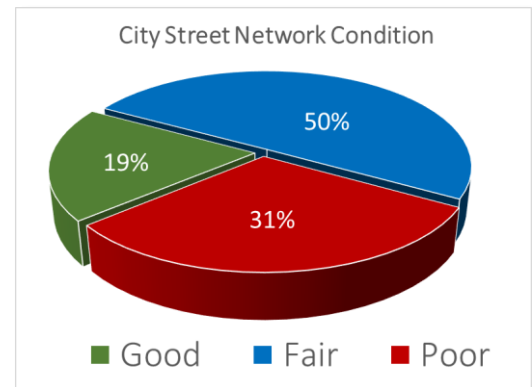
2023 Pavement Condition Summary

Access Delaware
Let's get there together

Report does not reflect
resurfacing work to be
completed in 2023

Summary

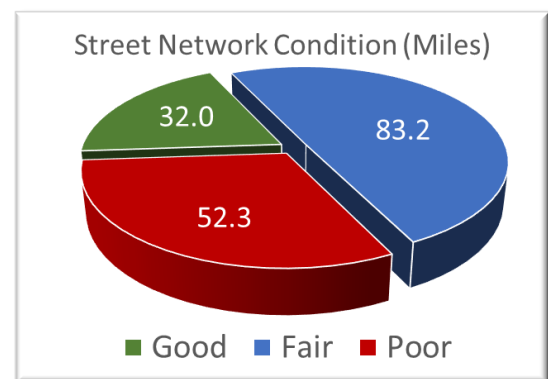
The City of Delaware is responsible for maintaining 193 miles of public roadway throughout the community comprised of 167 miles of city streets and 26 miles of state routes. The recently completed pavement condition assessment indicates that 195 streets totaling 52.3 miles in length require immediate paving at an estimated cost of \$22.3 million. Delaware should be investing \$3.3 million annually in maintaining the city streets. An additional \$4.5 million over the next five years is required to participate in ODOT's Urban Paving Program for state routes within the city. Over the past 20 years, the city has averaged only 2.7 miles of street paving per year. A sustainable pavement maintenance program, however, would include an estimated 8.6 miles of street paving per year. Without additional expenditure in street maintenance, the condition of Delaware's street network will continue to decline as restoration costs increase.



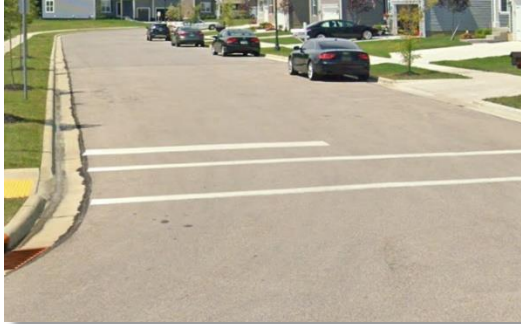
Existing Conditions

As Delaware has grown, so has the City's Street network by adding over 72 miles of roadway over the past 25 years. Pavement deteriorates at varying rates depending on daily traffic volumes, truck traffic, pavement drainage conditions, and surface maintenance. The City's street network includes alleys, neighborhood streets, collector streets, and arterials. Each deteriorates at different rates and over varying time frames, but all require resurfacing at the end of their respective useful service life.

Pavement condition assessments were completed in March of this year by Public Works Department staff. Individual streets were inspected and assigned a rating based on the condition of the pavement. A visual rating system is utilized that assigns pavement condition ratings to pavement sections ranging from 'Good', 'Fair', and 'Poor'. This method allows for the relatively quick assessment and assignment of pavement condition ratings to all streets within the City's roadway network on an annual basis. Pavement condition assessments of the state routes, including US23, are performed independently by ODOT as part of the State Urban Paving Program. Pavement condition ratings can be found at the back of this report.



Pavement condition is assessed and rated using the following guidance:



GOOD

- Like new condition
- Minor crack sealing may be required.
- Maintenance treatments will add little to no value in extending pavement life



FAIR

- Light to moderate cracking present in surface.
- Small areas of failed pavement.
- Application of preservation treatments like surface seals and micro-overlays would extend pavement useful service life.



POOR

- Moderate to heavy amounts of cracking present
- Potholes begin to form.
- Some structural repairs are needed.
- Resurfacing of street is required to restore the surface and prevent further deterioration.

Pavement Maintenance Program

A sustainable pavement maintenance program is required to maximize the useful life of the street network while reducing long term maintenance costs. Pavement maintenance includes the application of preservation treatments throughout the pavement's useful service life, followed by the replacement (paving) of the top course of asphalt at the appropriate time. Annual pavement maintenance costs are established as a function of the street type and anticipated life cycle of each roadway classification. It is estimated that \$3.3 million should be invested annually in the maintenance of the City's streets. The

table below shows the proposed costs associated with implementing a sustainable pavement maintenance program for the city street network.

Proposed Pavement Maintenance Program				
City Street Type	Miles	Service Life	Miles Paved	Annual Cost
Alley	9.44	20-25	0.42	\$66,482
Local Street	94.48	20-25	4.20	\$1,583,001
Collector	48.41	15-20	2.77	\$1,115,345
Arterial	15.2	10-15	1.22	\$491,464
Totals	167.53		8.60	\$3,256,290

Street Paving Backlog

Because the revenue has not been available for implementing a sustainable paving program over the last twenty years, the overall condition of the city street network continues to drop and the backlog of streets in need of paving continues to grow. Presently, 31% of the street network has been rated as ‘POOR’ with 195 streets in need of resurfacing. One third of these streets have deteriorated to the point where more costly reconstruction efforts are needed. It is estimated that it will require a \$22.3 million investment to restore the street network to a condition where it can be sustainably maintained in the future.

State Urban Paving Program

Delaware is responsible for the maintenance of the state routes within the corporate limits of the City. Until recently, the Ohio Department of Transportation (ODOT) managed the resurfacing of these routes through the Urban Paving Program whereby the State paid for 80% of the cost of maintaining the state highway system, limiting the local contribution to 20% of the construction cost for each paving effort. Recently however, ODOT has proposed modifications to the Urban Paving Program which would limit State funds to just \$85,000 per lane mile of highway resurfaced. The difference between the actual construction cost and State contribution becomes the responsibility of the city. Over the next five years staff estimates that the cost of participating in the Urban Paving Program will approach \$4.5 million in local contribution.

Public Alleys

The maintenance of the public alleys is currently the responsibility of the abutting property owners per Ordinance 86-36 put in place years ago. Recognizing that many alleys serve as the primary access to many residences within the city, the inclusion of public alley maintenance within the municipal paving

program should be considered. The cost of maintaining public alleys has been included in the estimates shown in the table above.

Sustainable Pavement Maintenance

A sustainable program would provide for the timely maintenance, repair and resurfacing of all public roads within the City to maximize the useful life of each street while minimizing long term maintenance costs. To establish a sustainable pavement maintenance program, the following effort is required:

1. Establish a dedicated revenue source to fully support an annual paving program expenditure of \$3.3 million to fund pavement preservation treatments and pavement surface replacement. This amount should be adjusted annually to account for the continued growth of the street network and construction inflation.
2. Continue to participate in the State's Urban Paving Program by setting aside an estimated \$4.5 million in local funding over the next five years to cover the local share of resurfacing the sections of US23, US36, SR37, US42, and SR521 within the City limits.
3. Establish additional revenue that can be dedicated toward reducing the \$23.3 million backlog in network streets requiring immediate resurfacing or reconstruction. This effort will be a long-term commitment that could take up to ten years to address all 195 streets currently in need of paving.
4. Continue to apply for state and federal grant opportunities to offset local costs in addressing the backlog of street paving required within the city street network.
5. Add a Project Manager position necessary to manage a substantially expanded annual pavement maintenance program, including addressing the backlog of city street paving needs.
6. Increase staffing in the Street Maintenance and Traffic Operations Divisions to improve the level of service in maintaining the current roadway network and related systems and appurtenances.