Report for the City Manager

Community Services: Engineering

Date: May 13, 2025

The purpose of this document is to summarize the work the City of Dover Engineering Division of the Community Services Department from April 1st through 30th, 2025.

SAVE THE DATE:

To kick off Public Works Week 2025, Community Services will be hosting a Touch-a-Truck Open House at their 271 Mast Road Facility! The event will be held on Saturday May 17th from 11 am until 2 pm. On and offsite parking will be available with a shuttle to the event being provided. Come meet members of the Community Services Team and see

what we are up to!



Anticipated Attendees Include:

Engineering Consultants: Wright Pierce Woodard & Curran Green VHB Underwood Engineers Kleinfelder

<u>City Departments:</u> Dover Planning and Community Development Dover City Library Dover Police Department Dover Fire Department Dover Community Services



Ken Mavrogeorge, PE – City Engineer Bill Boulanger – Special Projects Advisor Jillian Semprini, PE – Deputy City Engineer Krystian Kozlowski, PE – Assistant City Engineer Eric Sanderson – Facilities Project Manager Jamie Stevens – Waterfront Construction Manager Jordan Chambers – Engineering Technician Tim Puls, PE – Environmental Project Manager Meaghan Salito – Secretary I Gage Lamontagne – Engineering Intern



Figure 1: City Engineer Ken Mavrogeorge and Director John Storer serve ice cream at the Public Works Week Open House in May 2024.

Dover Community Groups: Dover Doers DHS/Middle School FIRST Robotics Dover Arts Commission

Touch a Truck Attendees:

Rochester Motorsports Moore's Crane COAST Bus ARMY National Guard Waste Management MB Tractor and Equipment Equipment East Snapology



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Navigating Traffic Challenges in Historic Dover

The charm and character of Dover, New Hampshire, are deeply rooted in its rich history, a legacy stretching back four centuries. However, this very history presents unique challenges when it comes to managing modern traffic congestion. Unlike many communities in the southern and western United States, whose transportation infrastructure has been planned with the automobile and significant population growth in mind, Dover's road networks and neighborhood layouts can often predate the mass adoption of vehicles by a century or more. This historical footprint creates complexities that traffic engineers must navigate to keep our vibrant city moving.

What are the challenges that Dover faces?

The fundamental challenge lies in the **organically developed and often constrained nature of Dover's street network**. Originally designed for pedestrian and horse-drawn traffic, many of our roads are narrower, winding, and lack the generous right-of-way seen in newer, planned communities. Historic neighborhoods often feature tight curves, limited sight distances, and intersections that were never intended to handle the volume and turning radii of modern vehicles, particularly larger trucks, buses, and tractor trailers. This inherent geometric limitation can create bottlenecks and impede smooth traffic flow, especially during peak hours.

Furthermore, the **density of development** in many of Dover's older areas exacerbates the issue. Buildings often sit close to the road, limiting the possibility of widening streets or adding dedicated turning lanes without significant disruption to historic structures and established neighborhoods. These constraints force engineers to find innovative solutions within the existing physical framework, often involving intricate signal timing and careful lane management.

The **intermingling of residential, commercial, and historical districts** within a relatively compact area also contributes to traffic complexity. Unlike cities with more clearly defined zones, Dover sees significant pedestrian and vehicular interaction across various parts of the city throughout the day. This necessitates traffic signal timings that not only accommodate vehicle flow but also provide safe and adequate crossing opportunities for pedestrians navigating between homes, businesses, and historical sites.

The presence of **NHDOT-controlled signals** alongside city-managed signals adds another layer of complexity in this historical context. While coordination is essential, the different operational priorities and long-term planning horizons of state and local entities can sometimes make seamless integration more challenging. Aligning signal timing and infrastructure improvements across jurisdictional boundaries requires ongoing communication and a shared understanding of the specific needs of Dover's unique road network.

Consider the implications for **signal progression** along corridors like Central Avenue. While coordination aims to create a smooth flow, the shorter block lengths, frequent intersections (some unsignalized), and the presence of historic buildings close to the roadway can make it difficult to achieve optimal offsets and prevent the formation of platoons that are disrupted by closely spaced traffic movements or pedestrian crossings.

The **lack of extensive dedicated turning lanes** at many intersections, a common feature in older urban environments, further hinders efficiency. Vehicles waiting to turn left or right can block through



traffic, reducing the capacity of the intersection and contributing to congestion. While adding such lanes would improve traffic flow, it often necessitates property acquisition and significant infrastructure modifications that can be costly and impact the historical fabric of the city.



Figure 1: Street reconstruction work on Fifth St.

Moreover, the **parking situation in older areas** of Dover can indirectly contribute to traffic congestion. On-street parking, while convenient for local businesses and residents, can narrow the effective width of travel lanes and create unpredictable merging and diverging movements that disrupt traffic flow. The limited availability of off-street parking in some areas can also lead to drivers circling blocks, further adding to congestion.

The **impact of special events (Apple Harvest Day, etc.) and seasonal tourism** on Dover's historic infrastructure is also a significant consideration. Events in the downtown area or increased tourist traffic during certain times of the year can strain the capacity of the existing road network, leading to temporary but significant congestion in areas not originally designed for such volumes.

What is Community Services doing to address the challenges?

Addressing these challenges requires a thoughtful and multi-faceted approach. Engineers in Dover must employ creative solutions that respect the city's historical character while striving to improve safety and efficiency. This might involve:

- **Optimized signal timing plans** that account for the specific geometric constraints and traffic patterns of individual intersections and corridors.
- Intelligent Transportation Systems (ITS) technologies, such as adaptive traffic signals, that can dynamically adjust timing based on real-time traffic conditions without requiring significant physical infrastructure changes.
- **Prioritization of pedestrian and bicycle infrastructure** to encourage alternative modes of transportation and reduce reliance on private vehicles.



- **Careful consideration of parking management strategies** to balance the needs of residents, businesses, and visitors while minimizing their impact on traffic flow.
- **Ongoing collaboration and communication** between the City of Dover and NHDOT to ensure a coordinated approach to traffic management across all roadways.
- **Public education and outreach** to encourage responsible driving habits and awareness of traffic patterns in the city's unique environment.

Complete Streets and Dover

Dover, is actively embracing the concept of "Complete Streets" to enhance mobility and safety for all its residents and visitors. Recognizing that transportation networks serve more than just vehicles, the city's engineers are diligently designing projects that thoughtfully integrate the needs of pedestrians, bicyclists, and public transit users alongside vehicular traffic. This holistic approach aims to create a more accessible, vibrant, and sustainable transportation system throughout Dover.

A cornerstone of this effort is the close collaboration between the City of Dover's Engineering and Planning Department staff as well as the Transportation Advisory Commission (TAC). The TAC serves as a vital link between the community and city planners, providing valuable input and feedback on transportation projects and policies. This partnership ensures that the needs and concerns of various stakeholders – residents, business owners, cyclists, pedestrians, and drivers – are heard and considered in the design and implementation of Complete Streets initiatives.

What exactly does a Complete Street project entail?

It's about more than just repaving roads. Engineers are focusing on incorporating features such as wider and safer sidewalks (when possible), ensuring accessibility for people of all abilities. Dedicated bicycle lanes or shared-use paths are being planned to encourage cycling as a viable and safe mode of transportation. Improvements to crosswalks, including high-visibility markings, pedestrian refuge islands, rapid rectangular flashing beacons (RRFBs), and countdown timers, are enhancing pedestrian safety at intersections.

Furthermore, Complete Streets projects often consider traffic calming measures to reduce vehicle speeds and create a more pedestrian-friendly environment. This can include features like raised crosswalks, pedestrian bumps outs, and narrower travel lanes. The integration of public transit infrastructure, such as improved bus stops with



Figure 2: Photo courtesy of the American Heart Association and Voices for Healthy Kids



shelters and accessible boarding areas, is also a key component which involves coordination with local bus operators like COAST bus.

Examples of this approach can be seen in ongoing and planned projects throughout Dover such as the Fifth and Grove Reconstruction Project, the Waterfront Redevelopment, and the reconstruction of Payne Street and Henry Law Avenue. Engineers in Dover are carefully evaluating existing corridors to identify opportunities for incorporating these Complete Streets elements during road reconstruction or improvement projects. This might involve reallocating road space to create bicycle lanes, upgrading sidewalks to meet ADA standards, or reconfiguring intersections to improve pedestrian safety and traffic flow.

Collaboration is Key:

The collaboration with the Transportation Advisory Commission is crucial in prioritizing projects and ensuring they align with the community's vision for a more multimodal transportation network. The TAC provides a forum for discussing proposed designs, addressing potential concerns, and advocating for projects that will have the greatest positive impact on safety and accessibility for all users.

By embracing Complete Streets principles and working closely with the Transportation Advisory Commission, the City of Dover is demonstrating its commitment to creating a transportation network that serves everyone. These thoughtful and integrated designs will not only improve safety and accessibility for pedestrians and cyclists but also contribute to a more livable and sustainable community for generations to come, all while navigating the unique challenges of a historic urban environment.

In conclusion, managing traffic congestion in a 400-year-old city like Dover presents a unique set of engineering challenges. The historical layout of our roads and neighborhoods, while contributing to the city's charm and character, necessitates innovative and context-sensitive solutions. By understanding the constraints imposed by our history and embracing modern traffic management strategies, Dover can continue to evolve and thrive while preserving its unique heritage and ensuring a more efficient and safer transportation network for all its users.

Staff News:

Dover Utilities Commission (Krystian Kozlowski): The DUC met on April 21st. Topics included the following:

- There was a discussion on fire line charges to a particular building in an existing condominium development.
- There were no abatement requests.
- Utilities Report reviewed and discussed by staff
- Finance report reviewed and discussed by staff

The next DUC meeting is scheduled for May 19, 2025.

<u>Planning Board (Ken Mavrogeorge)</u>: Planning Board met twice in April. The meetings were held on the 8th and 22nd. Topics on the agendas included:



- Discussion on the Draft CDBG Consolidation Plan
- Amendments to Chapter 170 of the Dover Code
- Site Plan/Conditional Use review and approval for 512 Sixth Street.
- Amendment to notes on a previously approved plan at 240 Blackwater Road.

<u>Transportation Advisory Committee (TAC) (Jillian Semprini)</u>: TAC did not meet in April. The next TAC meeting is scheduled for May 19, 2025.

Municipal Alliance for Adaptive Management (MAAM) (Director John Storer and Tim Puls): MAAM met on April 24th at the Rochester, NH DPW.

Seacoast Stormwater Coalition (SSC) (Tim Puls): SSC met on April 16th on Zoom.

- Sarah Ridyard, NHDES discussed Asset Management for Clean Water SRF. Dover has received funding for Stormwater Asset Management and Wastewater Asset Management in the past and therefore, Dover is no longer eligible to apply.
- Dover provided summary of MS4 Audit for Cocheco Waterfront project, construction site stormwater management procedures.
- PTAPP update, all data needs to be entered by July 31, 2025.
- EPA has set a goal of getting the updated MS4 permit out for comment in the Fall 2025.

<u>TIF Advisory Committee/Cocheco Waterfront Development Committee (CWDAC)/Park Subcommittee</u> (Jamie Stevens):

- CWDAC met on April 15th to provide construction updates
- Waterfront Construction Manager, Jamie Stevens attended a career day at Garrison School on April 10th to provide a presentation on the project where he shared several drone pictures and videos. Students interviewed Jamie on an individual basis.

Customer Service:

In addition to supporting other City Departments and working on Capital Projects, Engineering staff takes Service Calls from the public and responds to them as quickly as they can. The team meets regularly to review open Service Calls and discuss how to respond. The Table below shows the total Engineering related calls year to date and over the past month.

Time	Logged	Resolved
Period	Service Calls	Service Calls
April 2025	7	2
2025 YTD	38	28



Engineering Projects:

Engineering staff is actively supporting a number of projects across the city. The following are some highlights on just some of the active projects.

Cochecho Waterfront Redevelopment:

Despite the damp conditions brought by a wet spring, the Waterfront development project continues to move forward at a steady pace, with the lengthening daylight hours promising an acceleration of progress.

Significant advancements across both private and public development fronts have been made. On the private side, Buildings C and D are seeing substantial interior



Figure 3: Riverwalk Construction on the Waterfront is moving along.

work nearing completion, while the Townhome group E-3 is also approaching its final stages. Construction



Figure 4: Nebi Park along the Cochecho River takes shape.



continues within Townhome groups E-1 and E-2, indicating a consistent and robust level of investment and development within the private parcels of the waterfront.

Public improvements are also demonstrating encouraging momentum. The construction of the Granite bridge stair is progressing well, with the installation of steps closest to the water now underway, hinting at increased accessibility to the waterfront. A crucial milestone is the near energizing of the entire development by Eversource, which will power future infrastructure and buildings. Infrastructure work is also visible with the commencement of stormwater bioretention basins and light pole base installation on Payne Street. Furthermore, essential groundwork is being laid for Nebi Park with ongoing surveys and the progression of the RAP closure process. The exciting commencement of the river walk sidewalk installation signals the creation of pedestrianfriendly access along the waterfront.

Ecological considerations and long-term sustainability are also key components of the public improvements. The bio-retention area for outfall 2 is taking shape, contributing to improved water quality. The near completion of the Pavilion retaining wall suggests the development of a key public gathering space. The City's proactive engagement in restoring the former Army Corp bulkhead area, including the upcoming meeting with the NH Department of Environmental Services (NH DES), underscores a commitment to the shoreline's ecological health. Additionally, the installation of coir logs for the living shoreline represents a tangible step towards CL ecological enhancement. Finally, the completed demolition of the Butler building opens up new possibilities for future development within the waterfront area, contributing to the overall positive trajectory of this transformative project.





Figure 5: Utility work in Angle Street nearing completion.

Angle St Utility Replacements:

Special Project Advisor Bill Boulanger and Assistant City Engineer Krystian Kozlowski have been overseeing a project to replace a water main and stormwater underdrain on Angle Street which runs between Central Ave and Academy Street. Work on the water, sewer and drainage infrastructure within Angle has been completed by SUR Construction with paving of the road to be completed in mid-May.



Garrison Hill Water Tank Rehabilitation:

Sargent Corporation is currently working on the rehabilitation of the 4+ milliongallon tank atop Garrison Hill. In March, the tank was drained, inspected, and repair needs confirmed. April saw execution of the repairs and the installation of a new water main up to the tank. The rehabilitation of the tank is possible due to the construction of the new elevated tank brought online earlier in 2024. Public access to the Garrison Hill Park and community garden may be limited during construction and parkgoers are encouraged to check with the City's website for updates on the park's availability.



Figure 6: Inside of the 4 million gallon Garrison Hill Tank.

Henry Law Avenue/Payne Street Reconstruction:

NHDES permitting documents were finalized in April by Engineering consultants Kleinfelder. Permitting is expected to last for approximately 6-7 months in time for the project to go out for bid in September. Construction along the shoreline is expected to begin in mid-October after Apple Harvest Day festivities. Engineering staff are working with other City Departments to minimize disruptions to activities in Henry Law Park including phasing construction to allow for safe use of amenities throughout construction. The reconstruction project will include the installation of two underground stormwater management systems, sidewalk, roadway, and lighting improvements. Parking is anticipated to increase around the park as part of the work. A preconstruction meeting will be held with the selected contractor once one is on board.



Figure 7: Henry Law and Payne Street Reconstruction Project Limits.



Court and Union St Reconstruction:

The Court and Union St reconstruction project went out to bid in March and the City received two bids at the end of April. The lowest responsible bidder was SUR Construction. It is expected that the recommendation to award will go to Council in mid-May for approval. The project schedule will be determined once the agreement with the contractor is signed but it is expected that work will begin sometime in 2025 but no later than spring 2026.



Figure 8: Court and Union St Reconstruction Project Limits.

Fifth and Grove Reconstruction:

Granese and Sons remobilized to the project area in April to put the finishing touches on the reconstruction project. The work this April included the removal/reconstruction of the pedestrian refuge island in Central Ave., pouring of concrete sidewalks, and cleaning up where the limits of the project meet private property. Work is expected to last until early summer 2025.



Figure 10: Granese crews rebuilding a retaining wall adjacent to the project as part of the finish work on Grove Street.



Figure 9: The reconstructed pedestrian refuge island in Central Ave.

Sixth Street Bridge:

Engineering staff met with consultant VHB to review easement and permitting needs for the selected preferred alternative for the bridge replacement along Sixth St. The City anticipates permitting to extend into late 2025 and work on the replacement bridge to begin in 2026.



Garrison Hill and Oak St. Water Main:

Special Project Advisor Bill Boulanger and Environmental Project Manager Tim Puls worked with engineering firm Underwood Engineers to design water main improvements in the Broadway area. This area has experienced a number of major water main breaks in the past few years as the water main dates back to the

late 1800s. The water main upgrades will run first from the Garrison Hill Tank down to Oak St. Then, from Oak St the water main will head east down towards Broadway before heading south towards Florence St. SUR Construction was selected to construct the project during a competitive bidding process in March. A preconstruction kickoff meeting is scheduled for early May with construction anticipated to start in June 2025 after the annual soapbox derby.

Downtown Lighting Improvements:

Lighting in the Upper Square was removed and replaced with new modern LED fixtures. Additional lighting downtown will be replaced throughout 2025.

Sidewalk Improvements:

Assistant City Engineer Krystian Kozlowski performed GPS data collection and sidewalk design for the 2025 sidewalk construction project. The project includes upgrades to sidewalks along Horne Street, Woodman Park, Alumni Dr, and the Riverwalk. The sidewalks chosen were based on a study

conducted in 2024 that assessed the condition of nearly 80 miles of publicly maintained sidewalks in the City. Dover Community Services staff expects to send out a request for bids in May as the first step in working through a backlog of sidewalk reconstruction work that will improve accessibility across the City. Priority will be given to sidewalks within school zones and in highly utilized pedestrian areas such as



Figure 12: Cover Sheet for the 2025 Sidewalk Reconstruction Project.

commercial districts before moving on to less utilized areas. This project is a good example of how the Engineering Staff is looking to expand its in house design capabilities to save the City on consultant costs.





Facilities Projects:

New Inspection Services Building:

The City's contractor Martini Northern was busy putting the finishing touches on the new City of Dover Inspection Services building at Mast Road in April. The Community Services Department has provided Engineering Design, Project Management, and Site work construction support throughout the project. Sitework progressed in April,



Figure 13: IS Building at Mast Road is almost complete.

with the paving of new parking, sidewalks, and curbing installation along Mast Road. CS is looking forward to an early May move-in of City Inspection Services staff. The planned early May paving of the existing Community Services' lot, with final project completion by the end of May, signifies their direct involvement in ensuring the overall site is functional and accessible for both staff and the public.

Library Expansion/Renovation: The Dover Community Services Department is actively collaborating with the Library Department on its significant renovation project. April saw substantial progress, including the excavation and pouring of the foundation for the library's expansion area. The Community Services team has also been working closely with MEP (Mechanical, Electrical, Plumbing) consultants to finalize the optimal locations for the new generator and transformer, critical components of the upgraded facility. The project remains on schedule, with completion



Figure 14: The foundation of the Library expansion area.

anticipated in late 2026, and library patrons are encouraged to contact the Library directly with any questions regarding access to materials during the renovation period.



Jenny Thompson Pool Rehabilitation:

The Dover Community Services Department is playing a key role in the much-needed renovation of the Jenny Thompson Outdoor Pool, a project awarded to Northeast Earth Mechanics this spring, with a kickoff meeting held in April. Recognizing the pool's importance to the community since its construction in the 1970s and the urgent need for rehabilitation highlighted in the 2023 feasibility study by Weston and Sampson, Community Services is working closely with the Recreation Department to oversee this vital upgrade. This collaborative effort aims to revitalize the aging facility, ensuring its continued use and enjoyment for Dover residents for years to come. The pool's 2025 season will be shorter than usual with a closure expected in mid-August to accommodate a fall demolition and reconstruction. The 2026 season is yet to be determined as the reconstruction during the colder winter months will play a part in determining when the pool will be able to open.



Figure 15: Ice Arena Glycol Tank Leak.

Ice Arena Glycol Tank Emergency Repair:

In April, the Dover Community Services Department swiftly addressed a glycol tank leak at the Ice Arena, an incident that unfortunately led to the premature conclusion of the arena's recreational hockey season.

Demonstrating rapid response, operations staff from Community Services, alongside Facilities Project Manager Eric Sanderson, immediately took action to contain the situation. Their prompt efforts resulted in the successful capture and safe storage of nearly 1500 gallons of glycol, a vital coolant for the ice surface, while plans for a permanent repair were developed.

Downtown Tree Improvements:

The Dover Community Services Department is proactively addressing the health and suitability of downtown street trees through a selective removal and replacement program guided by the city's Central Business District (CBD) Street Tree Plan. This initiative targets dead, dying, diseased, or overgrown trees that pose safety concerns or have outgrown their allotted space. Replacements will prioritize species diversity and maintain the unique character of downtown Dover, ensuring that new plantings are well-suited to the urban environment and contribute to a vibrant and sustainable streetscape for years to come, as outlined in



Figure 16: McConnell Center HVAC equipment to be assessed.



the city's comprehensive plan. Tree installations will occur in 2025 and notices of temporary impacts to travel lanes will be provided as needed.

McConnell Center HVAC Assessment:

The Dover Community Services and Recreation Department has put out a request for bids for a multi-phased project to upgrade the HVAC equipment at the McConnell Center, a vital hub for community activities. The initial yet crucial step involves an assessment of the existing infrastructure that currently services the building's heating, ventilation, and air conditioning systems. This evaluation will pave the way for the development of a detailed and strategic plan for necessary HVAC improvements, ensuring a comfortable and healthy environment for all McConnell Center users in the long term.

Morningside Park Rehabilitation:

The Dover Community Services and Recreation Departments are embarking on an exciting project to revitalize Morningside Drive Park. Following the removal of outdated and unsafe playground equipment in 2024, the city's Engineering staff are now developing conceptual plans for the park's rehabilitation. This initial phase involves significant collaboration with various city departments and, most importantly, Dover residents to ensure the revitalized park meets the diverse needs of the community. Recognizing that funding may dictate the project's timeline, improvements are likely to be implemented in phases over multiple years, promising a thoughtful and sustainable transformation of this valuable community space.

Permits and Licenses:

Permit and License Summary for Apr	il 2025:	L
Driveway Permits:	11	1

Utility Licenses:	8
Paving Licenses:	6
Excavation Permits:	8
Certificate of Occupancy Inspections:	
Construction:	
Obstruction Permits:	

Wastewater Permit Review Summary for April2025:Sewer Connection Permit:0

Septic Design Reviews: 1



Figure 17: 725 Brick Rd Residential Development.



Site Review/Project Oversight Support:

<u>Technical Review Committee:</u> The City's Engineering staff typically takes between 1 to 4 hours for each review as part of the Technical Review Committee. The review focuses on engineering related design elements such as utilities (water and sewer), stormwater, parking lot layout and pedestrian pathways. To ensure that projects efficiently move through the TRC process, City Engineering staff is available for preapplication meetings with applicants. To schedule a meeting with staff, call 603-516-6450.

Three (3) projects came to TRC in April required Engineering review:

- 1 Cold Springs Rd.
- 9-11 Mechanic St.
- 210 Tolend Rd.

Preconstruction Meetings:

There was one (1) preconstruction meeting held in April 2025.

- 34 Industrial Park Dr. Auto Service and Storage Facility
- 180 Tolend Rd Cell Tower



Figure 18: Ember Drive work progresses.



Figure 19: Auburn St. homes under construction.



Construction Oversight:

Engineering Technician, Jordan Chambers, continues to conduct oversight of over 65 private construction projects approved by the Planning Board. Projects that are underway or have been completed include:

- 725 Central Ave Development (Central Ave and Brick Rd.)
- Ember Dr (New Rochester Rd.)
- Mixed Use Residential The Station (2 Grove St)
- Waterfront Private Development

- Chase Bank on Central Ave
- Pointe Place
- Fisher St. Residential (Lenox Dr)
- 48 Whittier St. Residential
- McIntosh Commons
- 59 Tolend Rd.



Figure 20: Recently opened Chase Bank at Webb Place.

