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MEMORANDUM

TO: Thomas A. Golden, Jr., City Manager

FROM: Yovani Baez-Rose, Assistant City Manager/DPD Director

CC: Elizabeth Oltman, PE, City Transportation Engineer

INFORMATIONAL REPORT: Andover Street Resurfacing Project

During the summer of 2023, DPD retained a consulting firm to provide transportation planning and conceptual design for the reconfiguration of Andover Street to maintain vehicular access to the City of Lowell while creating a welcoming environment for all roadway users and a gateway entrance to the City. Andover Street has a unique dual nature in that it also travels through the center of the Belvidere residential neighborhood and is lined with large trees and historic residential dwellings. Public outreach during the conceptual design process included a presentation to the Belvidere Neighborhood Association on May 10, 2023, and a city-wide virtual meeting on May 18, 2023. A public online survey was also conducted in May 2023. Through the public process, desirable elements to include in any final design were identified: reduce vehicle speed, update bicycle and pedestrian accommodations, create additional pedestrian crossing opportunities, maintain local access, and reduce road noise.

The consulting firm provided two alternatives, specifically a sidewalk-level shared use path on one side of Andover Street or sidewalk-level bicycle lanes on either side of Andover Street. These were long-range plans that would require extensive design and construction funding. There is some concern with regard to the actual constructability of either alternative, and if we started design today, it is highly unlikely that construction of either plan would start before 2032. DPD has not pursued retaining a design engineer at this time, as additional stakeholder input was determined to be necessary by the Council in October 2023.

In the interim, MassDOT has approached the City with approximately $4M in funding for Andover Street (Route 133) through their Local Aid Repair and Resurfacing program available for numbered routes that are under local jurisdiction. This funding is available for construction in 2026. Attached please find a presentation of two options prepared by MassDOT's design engineer for the resurfacing project. DPD offers the following high-level pros/cons on the two options from an Engineering perspective.

Option 1: Concrete Roadway Repair:
Pros: Patching of worst panels, resealing joints in travel way to reduce noise, keeps character of concrete roadway
Cons: Limited amount of patching due to cost, no full panel replacement, joints outside of travel way not sealed, would be restriped as existing due to joint layout, no funding for additional crossings or other desirable treatments

Option 2: Asphalt Overlay:
Pros: Advances in asphalt technology make this mill and overlay of the concrete with asphalt straightforward with a good track record of long-term success, a clean slate to restripe buffered bicycle lanes and reconsider center two-way left turn lane as median with decorative pavement treatment, available funding for new crossing locations, reduced noise, reduced future maintenance costs
Cons: eliminates concrete roadway character, not reversable

Neither option considers alteration of the existing curbline or sidewalk.

The Transportation Engineer respectfully requests a meeting of the City Council Transportation Subcommittee to allow a more detailed discussion of the two options. Further, a meeting with Andover Street residents is recommended.

EMO

Lowell Route 133

Repair and Reconstruction Options

Presented by

Howard Stein Hudson and MassDOT

Presented to

City of Lowell

September 4, 2024

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Concrete Roadway Repair

- **Cost**
  - $3-$4 Million
- **Proposed Work**
  - Cleaning and Resealing Existing Pavement Joints
  - Full Depth Patching
  - Partial Depth Patching
  - Cleaning and Sealing Cracks
  - Pavement Restriping

HMA Overlay

- **Cost**
  - $2-$3 Million
- **Proposed Work**
  - ¾” Concrete Surface Milling
  - Drainage Structure Adjustments
  - Partial Depth Patching and Joint and Crack Sealing
  - Hot Mix Asphalt Overlay
    - Stress-Absorbing Membrane Interlayer (SAMI) / Rubber Chip Seal
    - Polymer Modified ¾” Ultra Thin Bonded Overlay (UTBO)
  - Pavement Restriping

HMA Overlay

Engineers + Planners

Process Overview

The process utilizes a combination of industry proven applications sequenced together to treat the roadway.

Surface Milling
Thin milling (<1") as needed for a consistent profile

Structure Adjustments
Adjustment and/or repair of utility structures

Patching & Isolated Repairs
Filling of potholes and larger areas of deterioration

Mastic / Crack Seal
Sealing of all joints and cracks in the surface

Pavement Marking Removal
Eradication of old pavement markings (if needed)

Asphalt-Rubber SAMI
Application of crumb rubber modified stress absorbing membrane interlayer

Bonded Wearing Course
Final surface paving with ultra-thin (~3/4") bonded wearing course

Final Striping & Markings
Painting of permanment paving markings (temporary markings may be used in between processes)

Treatment Benefits

Treatment Performance

- Restores roadway profile, providing a smoother and safer ride for multi-modal traffic.
- Seals and waterproofs the existing surface from moisture intrusion.
- Resists raveling and delamination with superior bonding of the open, ultrathin overlay.
- Proven durable wearing coarse in demanding high traffic/high speed applications.

Construction Process

- Significantly quicker and less disruptive processes minimize delays to the public and allow more miles to be completed compared to alternatives.
- Roadways can remain open to traffic and processes can be completed at night (if needed).
- Thin profile of treatments retains curb reveal, maintains bridge and overpass clearances, and minimizes impact on driveway aprons.

Cost Savings

- Lower overall project and lifecycle costs than alternative methods.
- Allows for budget dollars to be stretched and significantly more miles to be completed compared to other treatments options.
- Sealing and preserving road surface delays or prevents future costly repairs and rehabilitation.

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Full Depth Hot Mix Asphalt Roadway*

- **Cost**
  - $15-$20 Million
- **Proposed Work**
  - Concrete Roadway Removal
  - Drainage Structure Adjustment
  - Full Depth Hot Mix Asphalt Construction
  - Pavement Restriping

Slide included for comparison only. Not for consideration at this time

Questions?

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