3/31/09 DRAFT

ROUTE 28 MULTI-USE TRAIL – NORTHERN SEGMENT
SALEM, NEW HAMPSHIRE

INTRODUCTION

This grant application is for the northern segment of the Salem Route 28 Bike/Pedestrian Corridor project. The northern segment is approximately 1.1 miles long, and the overall corridor length from the Methuen, Massachusetts border to the Windham, New Hampshire border is 5.6 miles. Figure 1 depicts the extents of the northern segment. This northern segment was chosen by the Town as the first segment of the corridor to improve. This is primarily because the northern segment will connect to the Windham Rail Trail which is already in advanced stages of development as a paved multi-use trail. Both trails occupy sections of the former Manchester - Lawrence rail corridor. This corridor is envisioned to eventually form a regional north-south rail trail from Salem to Concord, so each segment that is improved has both local and regional significance.

EXISTING CONDITIONS

Right-of-Way

The former railroad corridor is owned by the State of New Hampshire and will be available to the Town for development as a multi-use trail through a maintenance agreement. The east side of the trail corridor is bounded by the Route 28 right-of-way. It is bounded by Old Rockingham Road house lots on the west side. The trail corridor right-of-way varies in width up to approximately 80 feet.

Resources

The terrain of the rail corridor is varied. The former railroad bed has a relatively uniform profile, however the area between the rail bed and Route 28 is depressed and functions as a drainage swale. That low lying area is not well drained and as a result it exhibits hydric soils and supports wetland vegetation. The wetlands occupy what is a long, narrow drainage swale that is isolated from bodies of water and other more extensive natural systems.

Utilities

There is an underground fiber optic communication cable that occupies the trail corridor. It appears to be located within the former rail bed. There are very few overhead utilities for this segment. These are mostly located in the vicinity of the Range Road intersection.

Roadways

This segment is bounded by road crossings at both ends. The southern end begins at the crossing of Old Rockingham Road. Old Rockingham Road is a low volume neighborhood street that runs parallel to the trail corridor. The intersection with Route 28 is traffic signal controlled.

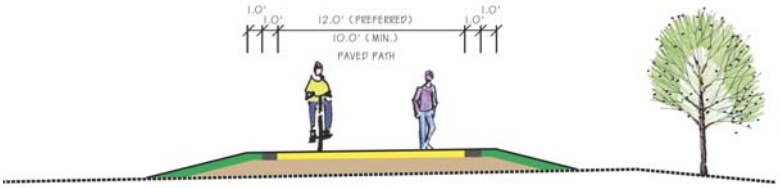
The northern end of the trail crosses Range Road just prior to reaching the Windham border. Range Road is a higher volume road that was the former NH Route 111. The completion of the Route 111 bypass in 2008 greatly reduced traffic volumes on Range Road, and as a result improved operations of the Range Road / Route 28 signalized intersection. This reduction in traffic will prove beneficial in accommodating an at-grade trail crossing.

PROPOSED IMPROVEMENTS

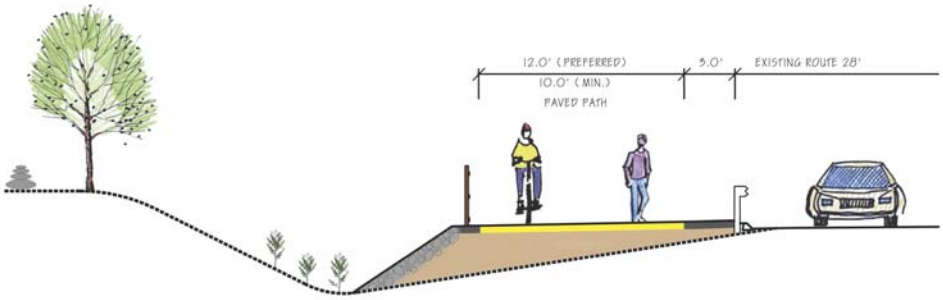
Trail Cross Section

The proposed multi-use trail is a 10-foot wide paved trail with 2-foot granular shoulders. It is intended to accommodate a full range of non-motorized uses. The varied terrain and the presence of wetlands within the corridor will shape the typical trail cross sections that are constructed. In the southern and northern reaches of this segment the trail can follow the historic rail bed. In these areas the typical section will be very conventional, following the existing grades with simple vegetated side slopes. In the areas where there are wetlands the trail alignment will be shifted to minimize impacts. The Town proposes to shift the trail to the east toward Route 28. The trail corridor's western edge is bounded by house lots, so the eastern alignment was chosen out of consideration for the privacy of those residents.

In order to minimize wetland impacts the trail will be positioned as close to the Route 28 pavement as practical. To provide safe separation from the roadway the improvements will include the installation of guardrail along Route 28 where none exists today. Bituminous curbing and catch basins will be installed along the roadway edge to prevent roadway drainage from running across the trail. The trail centerline will be set approximately 10 feet from the edge of the route 28 pavement. The slope impacts in the wetland will be contained through the use of rip-rap set on a very steep slope. Pedestrian railings will therefore be installed along the top of the slope for safety.



Standard Typical Section



Trail Adjacent to Route 28

Roadway Crossings

This section describes the at-grade road crossings that are proposed within the northern segment. The project includes Route 28 crossings, which are an important component since pedestrian crossings of Route 28 are scarce north of the Depot. The Route 28 crossings provide alternative transportation benefits since they allow residents of the neighborhoods west of tehe trail to access the commercial developments on the east side of Route 28 without using motor vehicles. The following describes the proposed crossings:

Old Rockingham Road:

The Old Rockingham Road crossing will be handled by a conventional crosswalk that will be controlled by pedestrian signals added to the existing traffic signal. It is also desirable to add a signal controlled pedestrian crossing across Route 28 at this location, as shown in Figure 2.

Range Road:

The Range Road (former Route 111) crossing requires the addition of a crosswalk within the signalized intersection as shown in Figure 4. It is recommended that the right turn slip lanes into and out of Range Road from Route 28 be eliminated. This would involve minor geometric modifications and the benefits would include improved safety for the pedestrians in the crosswalk. This is only made possible by the 2008 opening of the Route 111 bypass which reduced traffic on Range Road.

Wal-Mart Drive:

A pedestrian crossing of Route 28 is proposed at the Wal-Mart drive, as shown in Figure 3. This crossing would be positioned near the midpoint of the northern segment. It would be controlled by an adding a pedestrian phase to the existing traffic signal system. This crossing offers a direct connection between the residential neighborhood and the Wal-Mart plaza. There are two options for connecting the crosswalk to the Wal-Mart store. These include constructing a sidewalk along one side of the drive, or constructing a simple walkway connection into the closest parking area. Either will provide the required connection.

COSTS

The following is a summary of costs based on the conceptual plans and typical sections included with this application. It is assumed that right-of-way and utility relocation costs will be minimal.

Trail Construction	$ 780,000.
Engineering and Permitting	$ 90,000.
Construction Engineering	$ 40,000.
Project Total:	$ 910,000.