



Exit 63 Park and Ride Gray, Maine

2/26/2015

INTRODUCTION

The existing Exit 63 park and ride lot is located opposite of Route 26A at the intersection with Route 202. The park and ride is owned and operated by the Maine Turnpike Authority (MTA) and consists of 75 spaces with 3 handicap spaces.

MTA identified transportation deficiencies at the Exit 63 interchanges several years ago and are currently in design for proposed improvements to the interchange after the completion of a Feasibility Study. The selected alternative relocates the southbound ramps and toll plaza to the west side of the interchange. The alignments for the ramps will intersect with Route 202 at the existing signalized intersection where the driveway for the park and ride is located.

The existing park and ride is very successful and is near or at capacity routinely. As a result of the new interchange layout, the park and ride is proposed to be relocated to MTA's property on the east side of Route 26A across from the Northbrook Business Park. The right of way layout along Route 26A allowed MTA to locate a driveway in this location.

The relocation of the park and ride allows for improved traffic operations and safety in the vicinity of the Route 202 intersection and proposed toll plaza. The proposed park and ride increase the number of spaces to a total of 130 spaces with 5 handicap spaces. The park and ride project is currently in final design and will be constructed as a separate project from the Exit 63 interchange project. Construction of the proposed park and ride is tentatively scheduled for the summer and fall of 2015.

DATA COLLECTION

Data collection efforts for the project included the following:

- Aerial and ground survey
- Traffic counts
- Environmental resource identification
- A geotechnical program

This information was utilized in the design and evaluation of the park and ride and associated roadway improvements.



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DESIGN AND PERMITTING

Traffic Evaluation

Three hour turning movement counts were conducted for the weekday morning and evening peak hour conditions. This information was utilized in conjunction with the Exit 63 traffic volume networks to develop projected 2032 traffic intersection traffic volumes with 125 spaces assumed for the proposed park and ride.

Turn lane warrant analysis was completed using the criteria outlines in MaineDOT's *Volume One, National Standards Highway Design Guide (December 2004)* and National Cooperative Highway Research Board Report 457. The analysis results indicate that the projected 2032 peak hour volumes meet warrant levels for consideration of both left and right-turn lanes entering the park and ride facility.

Unsignalized intersection capacity analyses were performed for the projected 2032 volumes assuming left and right-turn lanes are provided for both vehicles entering and exiting the park and ride site to assess level of service (LOS) and vehicle queues. The analysis results indicate that vehicles turning left from the park and ride are projected to operate at LOS F during the 2032 peak hour condition as a result of the heavy through traffic on the Gray Bypass during the commuter hours; the anticipated maximum queue is 160 feet under this condition. It is important to note that LOS F operations during peak hour conditions for vehicles exiting from unsignalized side streets and driveways onto busy roadways is not uncommon and does not necessarily mean that improvements are needed. In this particular case, the ultimate geometry is being proposed for the intersection, including separate left and right-turn lanes for vehicles exiting the park and ride lot. Since the traffic volumes at this location fall well below signal warrant levels, no other improvements appear to be necessary to accommodate the proposed condition. All other movements at the intersection are projected to operate at LOS C or better through the year 2032 with no standing queues.

The opening year condition of 2015 will yield improved LOS at the driveway intersection compared to the future build year of 2032. Since there are no standing queues along Route 26A in 2032, this condition is expected from the opening of the park and ride. The queue length for the exiting vehicles from the park and ride will be less than the future year which is accommodated in the design.

Park and Ride and Route 26A Design & Permitting

The park and ride was conceptually sized to increase the number of spaces available while not impacting the wetlands in the area. The proposed park and ride lot will consist of 130 parking spaces, of which 5 are designated handicapped. The proposed parking spaces follow the MaineDOT Criteria for Off-Street Parking Lots (HDG -



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Section 6-1.05). The standard parking spaces are 18' long, 9' wide with an aisle width of 26' to allow for two-way traffic.

The design of driveway vertical profile follows the MaineDOT Design Standards for Entrance Designs (HDG - Section 8.8) with modest grades of 2% or less. The proposed driveway sight distance meets a 45 MPH design speed which exceeds the posted speed of 35 MPH.

The Route 26A turn lanes were designed to accommodate 12' lanes with minimal storage and adequate separation of the turning vehicles from the through traffic. The step box widening construction of the right turn includes a pavement and structural section designs that matches the original design of Route 26A. The left turn lane width was incorporated by modifying the existing median island.

The park and ride driveway and parking lot will be new construction with a pavement and structural section consisting of 4" of pavement and 4" of crushed gravel and 11" of gravel. The profiles and cross section grades range from 0.5% to 1% and generally shed water to the four corners of the site.

The park and ride proposes six light fixtures around the perimeter of the site and one at the driveway. The proposed lights are LED Type III lights with a 40' mounting height and partial back shields for the two lights closest to Route 26A. The power source for these lights requires the extension of the Central Maine Power's 240V aerial line across Route 26A into the site.

The proposed drainage for the site includes sheet flow off of the paved surface into grass vegetated slope and swales. The swales convey the stormwater to a level lip spreader before being outlet into a vegetative buffer before flowing into the existing roadside swales along Route 26A. Minor culverts are proposed to convey the stormwater beneath the park and ride driveway.

The clearing of the site, which has been completed, has left several trees between the front edge of the park and ride and Route 26A. There are several ornamental trees along the southerly end of Route 26A that are being transplanted to the intersection of Route 26A and Route 26.

The overall design of the park and ride project does not impact any wetlands. Through consultation with Maine DEP and the US Army Corps of Engineers no permits are required for the construction of this project.

The advertising and bidding schedule has tentatively been set for the spring of 2015. The anticipated construction of the park and ride project is scheduled to begin in summer 2015 with the completion being fall 2015.