

Route 109 Corridor Committee

Interim Report

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**Prepared by Southern Maine Regional Planning Commission
for the Route 109 Corridor Committee**

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I. INTRODUCTION

This report has been prepared by the Southern Maine Regional Planning Commission (SMRPC) for the Route 109 Corridor Committee. It is considered an interim report to document the information that has been collected and discussed during the 2003-2004 Fiscal Year and to identify the data and analysis that will need to be completed during the 2004-2005 Fiscal Year and beyond.

A. Meeting Future Demand

Route 109 travels from New Hampshire through Acton, Shapleigh, Sanford, and Wells and terminates at Route 1 in Wells. Between Sanford and Wells, the highway is heavily traveled by local residents, commuters, tourists, and trucks. Route 109 connects a service center to the interstate system, two industrial parks to an airport, a growing inland residential population to the southern Maine coast, and many travelers to the train. In November 2003, the Southern Maine Regional Planning Commission (SMRPC) convened a Route 109 Corridor Committee with representatives from the towns of Wells and Sanford and the Maine Department of Transportation (MaineDOT).

Early in the process, the need to determine whether or not the road would be able to meet the mobility needs of the anticipated future economic and residential activity in the region was identified. If not, it was recognized that other transportation options will need to be identified since there are a number of significant limits to increasing capacity by widening, including historical properties, funding constraints, conservation land, and the desire to retain rural character in the residential zones.

There are two items that need to be analyzed in order to satisfy the question of whether or not Route 109 will be able to meet the future mobility demands of the two communities of Sanford and Wells and ultimately, the region. The first item involves the road itself. How many cars and trucks can the road physically carry now; what is the maximum capacity; and what will it take to build the road to that maximum capacity? It is envisioned that MaineDOT's concurrent traffic study will identify the existing use and capacity of the highway and project future traffic volumes along the road. Also, MaineDOT's reconstruction project in Wells is upgrading the road to its greatest practical capacity. The cost of reconstruction will be a good estimate for what it will take to optimize the rural 2-lane highway's performance.

The second item pertains to demand and requires projecting future land use within and around Sanford and Wells. Although the MaineDOT traffic study will be able to project future traffic volume increases for the highway based on historical growth, members of the Corridor Committee expressed concern that the economic development activities taking place in Wells, Sanford, and elsewhere in York County may generate transportation activity that exceeds these projections and the geographical limits of Route 109. For example, regional traffic patterns are expected to change dramatically based on major retail development proposals in Sanford and Biddeford. The following list outlines the future economic activities and their potential effect on Route 109 that the Corridor Committee have discussed to date:

Note: The following notes were taken from the collection of meeting notes prepared for the committee over the past year and may not represent a comprehensive list of considerations that need to be included.

- Sanford and Wells have been discussing the potential for establishing Pine Tree and/or Free Trade Zones along Route 109, which could result in changes of use on land abutting the highway.
- Expansion of industrial uses is currently encouraged in both Sanford and Wells. Route 109 will increasingly be relied upon for the movement of heavy vehicles between industrial areas, Sanford Airport, and the interstate highway system. In fact, there are approximately 125 acres of buildable land, which is zoned for industrial use, near the Exit 19 interchange in Wells and the Wells Industrial Park already generates approximately 700 trucks per day.
- The Town of Wells recently made two requests to the Maine Turnpike Authority (MTA): (1) make improvements to the Exit 19 (formerly Exit 2) interchange and (2) reconsider an additional exit in the Moody area. Either or both of those projects would likely impact the traffic patterns of Route 109.
- Sanford is a designated Service Center and anticipates increasing residential and commercial growth, which will intensify the pressure on Route 109. The limitations on vehicle speed and roadway width through the High Pine area are a significant deterrent for access in and out of Sanford. Specifically discussed as a concern by the Committee is the proposed relocation and expansion of the Sanford Wal-Mart to the Industrial Business zone near Route 99, associated piggyback development, and how plans for a signalized entrance northwest of Route 99 will impact traffic movement. A new traffic signal would have a significant negative effect on the mobility of Route 109.
- It is anticipated that, as the Exit 32 (formerly Exit 4) area in Biddeford continues to experience tremendous retail growth, Route 109 and Exit 19 (formerly Exit 2) in Wells will increasingly need to support commuters and trucks. Also, there is concern that Route 99 and Exit 25 (formerly Exit 3) in Kennebunk will be similarly impacted.

B. Purpose & Needs Statement

Route 109 travels from New Hampshire through Acton, Shapleigh, Sanford, and Wells and terminates at Route 1 in Wells. Route 109 is part of the National Highway System between Route 202 in Sanford and the Maine Turnpike (I-95) in Wells. The study area shall include Route 109 between Old Mill Road in Sanford and Route 1 in Wells.

There are currently a number of recent past and current planning efforts that involve the corridor:

- The Maine Department of Transportation (MaineDOT) is designing a major reconstruction project for Route 109 beginning 0.14 miles west of the Maine Turnpike (I-95) Exit 2 in Wells, continuing for approximately 4.2 miles, and terminating just west of the northwesterly intersection of High Pine Loop.
- MaineDOT is conducting an in-depth traffic study of a portion of the highway in Sanford and Wells to enhance safety and improve traffic flow;
- MaineDOT is enforcing its access management rules, which outline design standards for driveways and entrances that access state and state-aid roads for the purposes of preserving highway capacity and enhancing safety and drainage;
- The Town of Wells adopted, as part of its 2002 Comprehensive Plan, a Route 109/9 Corridor Study, which details land use and infrastructure strategies for the corridor;
- The Town of Sanford is considering new road networks to address traffic generating from existing and future commercial activity along a portion of Route 109 in Sanford; and
- The Towns of Sanford and Wells are stewards of the land development and zoning processes along the corridor.

The need to coordinate these various efforts and develop a balance between mobility, safety, and the use of abutting land is increasingly important, especially when the anticipated industrial, commercial, and residential growth is considered. Conflicting land use and transportation decisions are likely to be made without open communication between the numerous stakeholders along the corridor. The stakeholders of the Route 109 corridor include:

- those that use Route 109, such as the Wells Trolley, York County Community Action Corporation (YCCAC) and the citizens of Sanford, Wells, and neighboring communities;
- those that rely on the mobility of Route 109, such as commuters and businesses in the region;
- those that are responsible for the planning of maintenance and improvement projects for the highway, namely MaineDOT, Regional Transportation Advisory Committee (RTAC) Region 6, and the Southern Maine Regional Planning Commission (SMRPC); and
- abutting landowners, including, but not limited to residents of the corridor, the Maine Turnpike Authority, Sanford Industrial Estates, Sanford Municipal Airport, Wells Industrial Park, and the Kennebunk, Kennebunkport and Wells Water District.

The purpose of this study is to provide coordination between the land use and transportation planning efforts listed above in an effort to build a long-term coalition between the stakeholders and to determine if the road will be able to meet the mobility needs of the anticipated future economic and residential activity in the region. The study will also assess the impact of MaineDOT's access management rules on existing and potential future curb cuts and develop access management strategies to preserve road capacity and enhance safety along the corridor.

II. OVERVIEW OF CONCURRENT PLANNING EFFORTS

A. Design/Reconstruction of Route 109 in Wells

The Corridor Committee was regularly updated on the design of the reconstruction of just over 4 miles of Route 109 between the Maine Turnpike Exit 2 interchange and the High Pine area in Wells. In general, the design will include widening to two 12-foot lanes and 8-foot shoulders, minor adjustments to the horizontal and vertical alignments to improve driving sight distance and meet AASHTO safety standards, and extensive reconstruction of the road base. Construction is expected to begin in 2005 or 2006.

Two left-turn lanes are also included. The first is a northbound left-turn lane onto Roger Bragdon Road. The design incorporates a bypass lane northbound at Roger Bragdon Road. The second is a southbound left-turn lane onto Lindsey Road. The design incorporates a 10-foot wide passing shoulder at the Lindsey Road intersection.

The Maine East Coast Greenway enters the project at Roger Bragdon Road and follows Route 109 northwesterly for 0.2 miles and exits at Meetinghouse Road. Publications encourage bicyclists to utilize the Amtrak connection at the Wells Intermodal Center, near the Maine Turnpike interchange. Also notable, three properties within the project limits are listed on the National Registry of Historic Properties.

B. MaineDOT Traffic Study

The MaineDOT Traffic Study for Route 109 covers a 10 ½-mile stretch of Route 109 from Old Mill Road in Sanford to the Maine Turnpike in Wells. Traffic data collected during the summer of 2003 included traffic volumes, turning-movement counts, vehicle crashes, and headway studies.

For 2003, Average Annualized Daily Traffic (AADT) volumes reached as high as almost 23,000 vehicles on Route 109 near its intersection with Old Mill Road in Sanford (in front of Wal-Mart). Just east of the Maine Turnpike interchange (Exit 19 – formerly Exit 2), the 2002 AADT was 18,610. The most recent lowest volume recorded is the 2002 AADT of 8,070 between Meetinghouse Road and Bald Hill Road in Wells.

High Crash Locations (HCLs) are intersections or roadway segments where eight (8) or more crashes occur in a three-year time period AND the Critical Rate Factor (CRF) is ≥ 1.0 . The CRF is the actual crash rate divided by the expected crash rate. There were 178 HCLs identified in York County for 2000-2003. Nine (9) of those are within MaineDOT's Route 109 study area. Of the nine (9), six of the HCLs are located between Old Mill Road and Route 4 in Sanford. The crash data analyzed in MaineDOT's traffic study does not include those not reported to the state, such as "fender-benders" resulting in less than \$1000 in damages. Corridor Committee members suggested that the local police departments be contacted for this information.

Average travel speeds and delays were also calculated for the corridor. The high speeds (as high as 35.5 MPH) recorded between Old Mill Road and Route 4 in Sanford were noteworthy,

especially given the fact that the average travels speeds include the delays encountered. This information was used to determine Levels-of-Service (LOS) along the corridor. MaineDOT segmented the study area into six (6) sections and presented the following results:

1. Turnpike to Route 9
 - Suburban Road Class used for analysis
 - Existing LOS = B
2. Route 9 to Evergreen
 - Rural Road Class used for analysis
 - Existing LOS = D and V/C = 0.32
 - Future LOS = E and V/C = 0.51
3. Evergreen to High Pine Loop
 - Rural Road Class used for analysis
 - Existing LOS = D and V/C = 0.29
 - Future LOS = D and V/C = 0.46
4. High Pine Loop to Route 99
 - Rural Road Class used for analysis
 - Existing LOS = D and V/C = 0.29
 - Future LOS = D and V/C = 0.46
5. Route 99 to Route 4
 - Suburban Road Class used for analysis
 - Existing LOS = A
6. Route 4 to Old Mill Road
 - Urban Intermediate Road Class used for analysis
 - Existing LOS = D

It is important to note that, the future Levels-of-Service presented were developed with the assumption that there would be increased traffic volumes based on historical growth, but that there would be *no changes* to the number of access points, location or design of passing zones, or any new traffic signals. The following growth rates were used to project future traffic volumes:

- Maine Turnpike to Route 9 – 2.5%
- Route 9 to Route 99 – 3.0%
- Route 99 to Route 4 – 2.5%
- Route 4 to Old Mill Road – 2.0%

It is important to note that these growth rates are a per year average and do not account for compounding growth. Also, these rates are for Average Annualized Daily Traffic (AADT) traffic volumes only. Different growth rates may be needed for “design hour” analysis as is used in building traffic simulation models, which were prepared for all signal-controlled intersections and presented to the Corridor Committee.

C. Community Planning Activities

Existing Planning Controls

The Route 109 Zoning Base Map was developed using the land use ordinances in Sanford and Wells. It depicts zoning districts, allowable land use categories, and the Corridor Committee study area. The following color-coding system, comparable between the two communities, was used to generalize traffic generation possibilities based on the zoning district and the uses allowed within those districts:

- Red: These zoning districts are expected to generate high traffic levels as associated with retail commercial uses.
- Orange: These are industrial zoning districts and are expected to generate significant levels of heavy vehicle traffic.
- Yellow: These zoning districts encourage the development of office space, likely generating peak hour commute traffic.
- Green: These are residential growth and/or mixed use zoning districts.
- Blue: These are rural residential zoning districts.
- Purple: These are zoning districts with greater environmental protections.

Table 1 outlines the general dimensional standards in place in Wells and Sanford along Route 109. Some of the standards are relaxed or stricter depending on use. Refer to the communities zoning ordinance for specifics. Minimum lot sizes give an idea of the allowable density and intensity of development that is allowed on the corridor. An analysis of minimum lot sizes combined with the allowable land use tables and an analysis of access points can show where and how much traffic generation might occur in the future. Minimum front setbacks can control the amount of land available to preserve as right-of-way for potential future capacity expansions and/or the development of service roads. Similarly, minimum side and rear setbacks provide some insight into the opportunities for perpendicular or back access roads that can be used to relieve congestion and or provide access to property without accessing the mobility corridor directly.

Table 1: Dimensional Standards

Zone	Minimum Lot Size	Minimum Front Setback	Minimum Side Setback	Minimum Rear Setback
Wells: Residential A	Sewer: 20,000 ft ² No Sewer: 40,000 ft ² W of I-95: 40,000 ft ²	Street ROW: 25 ft State Highway ROW: 40 ft	15 ft	15 ft
Wells: Residential Commercial	Sewer: 20,000 ft ² No Sewer: 40,000 ft ²	Street ROW: 25 ft State Highway ROW: 40 ft	15 ft	15 ft
Wells: General Business	Sewer: 20,000 ft ² No Sewer: 40,000 ft ²	Street ROW: 25 ft State Highway ROW: 40 ft	15 ft	15 ft
Wells: Light Industrial	40,000 ft ²	40 ft	25 ft	25 ft
Wells: Rural	100,000 ft ²	Street ROW: 25 ft State Highway ROW: 40 ft	25 ft	25 ft
Sanford: Rural Residential	40,000 ft ²	75 ft	20 ft	15 ft
Sanford: Rural Mixed Use	40,000 ft ²	75 ft	20 ft	15 ft
Sanford: Single Family Residential	6,500 ft ²	"uniform setback relationship" OR if no relationship 25 ft	10 ft	10 ft
Sanford: General Residential	7,500-10,000 ft ²	"uniform setback relationship" OR if no relationship 20 ft	10 ft	10 ft
Sanford: Residential Development	7,500-10,000 ft ²	25 ft	10 ft	10 ft
Sanford: Office Residential	None	"uniform setback relationship" OR if no relationship 10 ft	10 ft	10-20 ft
Sanford: Commercial Centers	Sewer: No Restriction No Sewer: 20,000 ft ²	"uniform setback relationship" OR if no relationship 20 ft	10 ft	10-20 ft
Sanford: Suburban Bus.	40,000 ft ²	50 ft	50 ft	50 ft
Sanford: Urban Business	5,000 ft ²	"uniform setback relationship" OR if no relationship 20 ft	None	None
Sanford: Downtown Bus.	None	"uniform setback relationship" OR if no relationship 10 ft	None	None
Sanford: Indust. Business	40,000 ft ²	50 ft	50 ft	50 ft
Sanford: Airport Develop.	40,000 ft ²	15 ft	15 ft	15 ft

Wells Future Plans

The Route 109 Corridor Study, published in 1999 and adopted as part of the Wells Comprehensive Plan, designates the High Pine area for residential and limited business use and Route 109 north of High Pine to the Sanford Town Line as rural. Between Route 1 and the Turnpike, a Town Center is envisioned.

Significant development activity is expected adjacent to the Maine Turnpike interchange, potentially including a hotel, gas station, a fast food restaurant, and a drive-through coffee and doughnut shop. There are plans to extend water and sewer to service this area. Additionally, there are 150 acres of land zoned for industrial use and designated as a Pine Tree zone.

Sanford Future Plans

A preliminary Master Plan for potential new street connections is under discussion in Sanford. (See map) The new roads would open up more land for development in the Commercial Centers zone, where Town officials would like to steer new and expanded commercial/retail growth.

In addition, there have been a number of contacts made with the Town Planning and Code Enforcement Department by representatives of “big-box” developers regarding the potential for development of land along Route 109 between Route 4 and Route 99. This segment of the highway currently has very good mobility as documented by MaineDOT’s traffic analysis presentations to the Corridor Committee. The most significant development that the Corridor Committee has discussed is the proposal for a Super Wal-Mart, which could be constructed just north of Route 99 with a signalized access on Route 109. The development would need to proceed through the Town’s Contract Zoning process since the use is not currently allowed in the Industrial Business Zone.

D. Alternative Modes and the Route 109 Corridor

The Corridor Committee frequently discussed the existing resources for utilizing alternative modes along the Route 109 Corridor and the opportunities for future use. The Wheels to Access Vocation and Education (WAVE) service runs along the Route 109 corridor bringing workers from the Sanford area to jobs and education sites in South Sanford and Wells. The demand for this service is expected to rise, and the need to maintain a schedule is critical to its success. The WAVE Trip Origin Maps illustrate the demand generated by area businesses for transit service. In addition, the Corridor Committee made the following general points in their discussions to date:

- Rail may be an option worth exploring for freight movement.
- Use of the Wells Intermodal Transportation Center for carpooling and accessing passenger rail will likely continue to increase in the future.
- The Eastern Trail will have a major entry point on Route 109, approximately one mile from the Wells Intermodal Transportation Center.

- Plans for Sanford Airport include designating it as a “Free Trade Area,” expanding the use of the airport for the movement of cargo, and serving private and charter passenger aircraft.
- There is not yet year-round transit serving the Wells Intermodal Center. The Wells trolley operates only during the tourist season. Also, there is no regular service to Sanford. However, there is currently an effort underway to study the potential for a “Coastal Explorer,” which would connect the coastal southern Maine towns with the Downeaster train service at its various southern Maine stops. Should such a service be implemented successfully, connections to Sanford via Route 109 and Route 111 may be a logical next step.
- Park-and-ride lots are another Transportation Demand Management (TDM) strategy. Potential locations in Sanford should be investigated.

III. HIGHWAY ACCESS ANALYSIS

In recent years, transportation planners have steered away from adding capacity to the highway system. Planners have found that adding capacity increases long-term maintenance costs. In addition, planners have found that by adding capacity, they have induced new demand for the highways by opening up new development possibilities for land uses surrounding the corridor. Access management has become an increasingly important tool for planners to help control both land use and transportation-related factors that tend to decrease the mobility and safety of corridors. As part of the Route 109 Corridor Study, the Committee examined the existing conditions of driveways and entrances on the corridor, as well as the existing access management tools used by the Maine DOT, Sanford and Wells to determine if accesses were sufficiently regulated so that the highway would continue to have optimum highway mobility and safety.

A. Committee Observations

Since the first meeting in November 2003, SMRPC has gathered a good deal of insight and observations from the Route 109 Corridor Committee regarding the existing conditions of access management and land uses on the Route 109 Corridor, as well as the Committee's planning priorities for future controls on the highway. The following bullets highlight some of the key observations the Committee has made with regard to Route 109's existing conditions:

- Curb cuts are fairly well established in Sanford, and local rules will likely allow very few, if any, new curb cuts along Route 109 in Sanford. In Wells, there is less stringent local regulation regarding new curb cuts, but MaineDOT's Access Management rules apply outside the urban compact. It is anticipated that a review of existing curb cuts will result in a determination that very few, if any, new curb cuts will be allowed along Route 109 *outside the urban compact*.
- The speed of trucks moving through the High Pine area is a concern.
- Expansion of industrial uses is currently encouraged in both Sanford and Wells.

The following bullets show some of the Committee's thoughts with regard to the future use of the Route 109 Corridor:

- Route 109 will increasingly be relied upon for the movement of heavy vehicles between industrial areas, Sanford Airport, and the interstate system.
- It is anticipated that, as the Exit 4 area in Biddeford is experiencing tremendous retail growth, Exit 2 will increasingly need to support commuters and trucks.
- Sanford is a designated Service Center and anticipates increasing residential and commercial growth, which will intensify the pressure on Route 109. There may be long-term capacity issues. The limitations on vehicle speed and roadway width through the High Pine area are a significant deterrent for access in and out of Sanford. It may be necessary to investigate the potential for a bypass.
- Maine DOT's Access Management Rules may not be strict enough for this corridor and do not apply within the urban compact areas. The two communities may want to collectively design and implement a consistent curb cut permitting process for the entire length of the highway.

B. Study Area and Analysis Overview

The purpose of the highway access analysis was to determine how many existing driveways and entrances conformed to the Maine DOT Access Management Rules and how future conditions of the highway might change through further access development.

Although the Route 109 Corridor Committee, in its purpose and needs statement, identified the stretch of corridor between Old Mill Road in Sanford and Route 1 in Wells as the total study area to be reviewed by the Committee, a smaller segment of that corridor was chosen as a target study area for a detailed highway access analysis. The segment of road between Sam Allen Road in Sanford and Lindsay Road in Wells (most of which is in Wells) was chosen for several reasons:

- Because of the target study area's close proximity to Interstate 95 Exit 19 (formerly Exit 2) in Wells and its important regional mobility function;
- Because of the substantial amount of perceived undeveloped and/or subdividable land in the target study area;
- Because the Committee identified early on that the Wells Subdivision Regulations and Zoning Ordinances did not have strong access management regulations;
- Because the land uses on this part of the road are mostly residential, but some of the zoning allows for other land uses with the potential for more intensive traffic generation;
- Because the Committee requested a detailed, and time-intensive highway access analysis that would examine how access management performance indicators matched up to existing conditions of the highway. Due to staff time and budget constraints, a smaller portion of the corridor would have to be analyzed to perform an intensive study.

The 3.2 mile long highway segment contains 75 existing driveways and entrances, most of which are residential driveways. This 3.2 mile long study area does not include a 1.3 mile long urban compact area in Wells, also known as the High Pine neighborhood, which is located between Checkerberry Way and a utility line easement near Evergreen Drive. The study area passes through the Rural Residential and Rural Mixed Use Zones in Sanford, and the Residential A, Residential Commercial, and Rural Zones in Wells. For more information about allowable land uses in these zones refer to the Route 109 Corridor Study Base Zoning Map accompanying this study).

For the highway access study, the Committee used the Maine DOT's Access Management Rules (Highway Driveway and Entrance Rules) as the performance standard for this segment of highway, because Maine DOT has statutory authority to permit all state and state-aid highways in Maine. Since Maine DOT's rules do not apply to urban compact zones, the urban compact zone in this study area was not a priority of the study. Due to budget and time constraints, the Wells urban compact zone, known as the "High Pine" area, was not integrated into the highway access study.

For the target study area, the Southern Maine Regional Planning Commission and Maine DOT collected the following information:

- Sight distances for each driveway, entrance and private road*;
- Corner clearance status for each driveway, entrance and private road*;
- Minimum spacing status for each driveway, entrance and private road*;
- Permitted land uses and lot dimensions for parcels in the target study area;
- Developed and undeveloped properties;
- Subdividable properties;
- Land with strong conservation protection (water district land, town-owned land, conservation easement protected land);
- Land with weak conservation protection (lands registered in current use tax programs for open space, tree-growth, or farmland).

* Standards based on Maine DOT Access Management Rules for 50 mph mobility arterial.

C. Existing Access Management Controls on Route 109

Maine DOT Access Management

Maine DOT adopted a set of access management rules in 2002 in response to the enactment of “An Act to Ensure Cost Effective and Safe Highways in the State by the Legislature” in 2000, which addressed arterial highway capacity, poor drainage, and the high number of driveway-related crashes. Any new or changed driveway or entrance on state and state aid highways located outside of urban compact areas must meet certain specifications in order to obtain a permit from Maine DOT. The rules regulate sight distance, corner clearance, access spacing, width, setbacks, parking, drainage, and mitigation requirements.

The rules are organized into a four-tier system with increasing regulatory considerations for driveways and entrances for roads with poorer mobility and safety.

1. Basic Safety Standards apply to all state and state-aid roadways.
2. Major Collector and Arterial Standards provide more regulation for entrances onto major collector and arterial roadways.
3. Mobility Corridors are non-urban compact corridors with posted speed limits of 40 mph or greater that connect service centers and/or urban compact areas and carry at least 5000 vehicles per day along at least 50% of the corridor’s length.
4. Retrograde arterials are Mobility Corridors where the number of crashes related to a driveway or entrance exceeds the statewide average for arterials with the same posted speed.

For all classes of roads, basic safety sight distance (also commonly called stopping sight distance) is the minimum threshold requirement that an access must meet in order to receive a permit. Basic sight distance describes the ability of a driver traveling on the highway to come to a complete stop before hitting a vehicle that has turned onto the highway ahead of them.

Table 2 shows the number of access permits that the Maine DOT has processed on Route 109 since the establishment of the Maine DOT Access Management Rules. The table is based on permitting information from March 2002 to April 2004. At the time of writing, SMRPC was investigating incomplete or missing information between November 2002 through April 2003.

Table 2: Route 109 Access Permits Issued by MDOT

Date	Town	Functional Class	Driveway/ Entrance	Posted Speed	Drainage Risk?	Approved/ Denied
5/02	Acton	Major Collector	Driveway	45	No	Approved
8/02	Acton	Major Collector	Driveway	45	No	Approved
3/03	Sanford	Mobility Arterial	Entrance	50	No	Approved

Sanford and Wells Access Management

In addition to the Maine DOT Access Management Rules, the Towns of Sanford and Wells also regulate driveways and entrances on Route 109. In the urban compact areas where Maine DOT regulatory authority is not enforceable, the local access management standards are the only layer of regulation for highway accesses.

Between the three entities, there is a wide range of regulatory language that is currently applied to the Route 109 corridor. Table 3 shows twelve types of access management strategies that are currently applied in the Sanford and Wells Zoning Ordinances and Subdivision Regulations. The table does not evaluate the effectiveness of the ordinance or regulatory language in these documents. For a more detailed description of the Sanford and Wells access management regulations (including article and section citations) see Appendix A.

In 2003 Sanford improved its access management program. In some respects (such as its Level of Service Rules and its access combining provisions for adjoining lots in commercial and business zones) Sanford’s access management regulations are as strong or stronger than the Maine DOT’s permitting process. In addition, Sanford has several rules that are designed specifically for its urban compact areas where the highway design speeds are slower. For example, sight distance and corner clearance are comparatively shorter than the Maine DOT rules, which is appropriate because structures are closer to the street and development is denser.

While Wells does have some regulatory language in its Zoning Ordinance and Subdivision Regulations, there are a number of access management strategies that are not incorporated in its regulatory system. For example, Wells does not have regulatory language that deals with curb cut locations in relation to intersections (corner clearance), curb cut spacing requirements, or level of service rules that apply to new developments. In other cases, Wells has access management language, but that language is sometimes vague, particularly with regard to its restrictions on allowable curb cuts per lot, curb cut widths, sight distance, and provisions to adjoin or combine accesses for neighboring lots.

Table 3: Existing Access Management Controls in Sanford and Wells

Access Mgmt. Control Type	Sanford Zoning Ord.	Sanford Subdivision Regs.	Wells Zoning Ord.	Wells Subdivision Regs
Double Frontage Lot Restrictions	Yes	Yes	Yes	Yes
One Access per Lot	Yes	No	No	No
Internal Street Vehicular Access Requirements for Development	Yes	Yes	No	Yes
Curb Cut Width Standards	Yes	No	Yes	No
Corner Clearance Standards	Yes	Yes	No	No
Curb Cut Minimum Spacing Standards	Yes	Yes	No	No
Sight Line Standards	Yes	No	No	No
Sight Distance Standards	Yes	Yes	Yes	No
Layout/Design Standards for Internal Traffic to Avoid Queing	Yes	Yes	Yes	No
Turn-around Requirements	Yes	Yes	Yes	No
Shared Access Standards	Yes	No	No	Yes
Level of Service Standards related to new Access Development	Yes	Yes	No	No

D. Access Analysis

Sight Distance

Under the Maine DOT permitting process, sight distance is one of the most important considerations for permitting a driveway or entrance. Basic safety (or stopping) sight distance is the minimum standard that a new driveway must meet in order to receive a permit on any state or state-aid highway. For Mobility Arterials like Route 109, a great deal of accesses with only basic safety sight distance could adversely affect the mobility of the corridor depending on the land uses abutting the corridor and the time of day. A Mobility Arterial is a highway that (1) has a posted speed limit of 40 mph or more and (2) is connects Urban Compact Areas or Service Centers, and (3) carries an Average Annualized Daily Traffic (AADT) of at least 5,000 vehicles per day for at least 50% of its length.” Mobility Sight Distance, or “the sight distance required to

allow a vehicle entering the highway to reach 85% of the posted speed without being overtaken by a vehicle,” is the more ideal sight distance for a mobility corridor, because it allows vehicles to maintain speed on the highway. Both standards change in distance according to the speed of the highway.

For the target access management study area, a 50 mph zone, accesses would need to conform to a basic sight distance of 495 feet for ordinary passenger vehicles. In order to achieve mobility sight distance, accesses would need to provide a sight distance of 840 feet. The results of the sight distance conformity analysis revealed that:

- 30 accesses (40%) had mobility sight distance looking both ways;
- 32 accesses (42%) had mobility sight distance and basic sight distance in one direction each;
- 12 accesses (16%) had basic sight distance looking both ways; and
- 1 access had mobility sight distance in one direction, and less than basic sight distance in the other direction.

While this data presents a good picture of the sight distance challenges that each landowner has when they exit their driveway, it doesn't adequately show the effect on mobility for drivers on the highway. In addition to identifying each driveway and entrance's sight distance, the Committee also decided to analyze how sight distances affected directional mobility on the highway. After a careful review of the existing conditions in the study area, it was determined that mobility was impeded by approximately the same number of miles of basic and less than basic sight distance in either direction. For a graphical representation of the direction mobility of the corridor, refer to the left hand side of the double map, "Directional Mobility on Route 109: Perspective of Driver".

In a follow-up effort by Maine DOT, the engineering team designing the reconstruction of a segment of Route 109 in Wells analyzed their proposed changes to vertical and horizontal alignment to see if the existing conditions gathered for this analysis would be improved. Their design is expected to improve the sight distance for about 20 driveways just southeast of the High Pine Urban Compact Zone in Wells.

Minimum Spacing and Corner Clearance

The Maine DOT Access Management Rules specify minimum spacing distances between accesses. Minimum spacing standards, like sight distance, change in distance depending on the posted speed zone of the highway. For Route 109 and other 50 mph highways, the minimum spacing standard for accesses is 350 feet. Minimum spacing standards have been waived for driveways that have adequate sight distance and when Maine DOT believes that the waiver will not adversely affect safety. Of the 75 accesses in the study:

- 70 (93%) of the accesses were nonconforming to this standard; and
- 5 (7%) of the accesses were conforming.

Spacing between accesses on this section of corridor ranged from 0 to 1730 feet. The median spacing between accesses was 135 feet, well below the Maine DOT standard.

Maine DOT also has corner clearance standards for driveways and entrances. The minimum corner clearance for a driveway to an unsignalized intersection is 75 feet and to a signalized intersection is 125 feet. Waivers to this standard are granted to driveways if Maine DOT finds that the placement of the driveway will not adversely affect highway safety. Entrances on mobility arterials are held to a corner clearance of 125 feet for all intersections, and this standard is not waivable unless the intersection is a controlled access off-ramp. Of the existing 75 accesses in this study:

- 69 (92%) of the accesses had adequate corner clearance; and
- 6 (8%) of the accesses were nonconforming.

Potential for Future Accesses

As part of the access analysis, the Corridor Committee also examined future development potential in the target study area. For this part of the study, the Committee looked at undeveloped and/or subdividable land abutting the corridor including an analysis of lands with various levels of conservation protection. Generally speaking, there is a great deal of unprotected subdividable land bordering the Route 109 corridor, including undeveloped vacant land and developed land prime for additional subdivision. Refer to the map, “Developed vs. Undeveloped Parcels on Route 109” for a graphical representation of this information.

Based on this analysis of the available unprotected and subdividable land, the Committee identified at least nine areas on the corridor that are potential mobility disruption points. For a graphical representation of the potential mobility disruption points, refer to the map, “Directional Mobility on Route 109: Perspective of Driver.” The red circles on the map show properties on the corridor that are either undeveloped or subdividable. Not coincidentally, many of the potential mobility disruption points currently give highway drivers mobility sight distance because there are few or no access points on those sections of the highway. However, generally speaking, as access points increase, there is a higher probability that sight distances will decrease because the Route 109 corridor has a great deal of vertical and horizontal sight distance obstructions—it is not a perfectly aligned road.

Another important finding in the study area were the number of existing lots with direct access to Route 109 including some spaghetti lots and flag lots. On sections of the road where lot frontages are very narrow, mobility sight distance tends to decrease to stopping sight distance. Both Wells and Sanford have provisions in their subdivision regulations making it difficult to create new lots with direct access to Route 109.

IV. RECOMMENDATIONS/NEXT STEPS

A. Access Management Mitigation Recommendations for Study Area

Perhaps one of the most important findings from the study of the highway access study area between Sam Hill Road in Sanford and Lindsay Road in Wells was that the two towns will need to develop a collective vision of what functionality the two towns will want for that portion of the corridor. Currently the study area portion of the highway is one of the most “at risk” sections of the corridor because of its proximity to the Maine Turnpike and its developable and subdividable land. The highway access study area presently holds a very critical function to the corridor because it carries thruway traffic to and from the “Lakes Region” north of Sanford, downtown Sanford, the Sanford Airport, the Industrial Parks, Exit 19 on the Maine Turnpike and Route 1. Will the highway access study area remain predominantly residential so that most friction from accesses along the highway will continue to occur at peak hour commuter times? Or will the location of the corridor segment between Sanford and Exit 19 inevitably attract commercial development? At this juncture, comments from the Corridor Committee have been directed at maintaining highway mobility and safety on this section of the corridor so as to maintain mobility for commercial trucking, commuter and tourism traffic. A Wells-Sanford collective vision, including goals that provide direction to the communities to take actionable future zoning and access management strategies, should be considered.

Some further data collection will need to take place in order to substantiate any future access management mitigation recommendations for the study area:

1. The Urban Compact Area known as “High Pine” will need to have its accesses and its undeveloped or subdividable lands evaluated.
2. The existing setbacks and frontages of structures and lots abutting the study area will need to be examined.
3. The Committee should identify extensions of or other portions of the corridor similar to the highway access study area that have significant portions of undevelopable or subdividable lands. Ideally, a study of the network of public and private roads connecting to the corridor study area should also be evaluated.

Based on the information gathered from the study, there are a few considerations that the Committee should further examine in developing a stronger access management program for the study area.

1. The towns should evaluate whether mobility sight distance for this portion of the corridor is a goal for the study area. If it is, the towns will have to make mobility sight distance “non-waiverable” in their local regulations. Evaluate other waiverable Maine DOT regulations in order to decide if permitting requirements should be stronger and less flexible.
2. The towns should re-examine high traffic generating land uses that are allowable on this portion of the corridor and the time of day that the land uses are likely to impact highway mobility and safety. The towns may want to enforce a higher standard of access management regulations (including minimum spacing and sight distance) for land uses with larger or ongoing traffic impacts.

3. The towns will need to further study how the High Pine Area affects the greater function of Route 109 as a Mobility Arterial and work with Maine DOT and abutting land owners to develop strategies to increase mobility in that area if it is needed.
4. Consider adopting Maine DOT's "Change of Use" access management permitting definition as a strategy to increase mobility and safety on portions of the highway that have nonconforming existing accesses.
5. Consider the costs and benefits of horizontal and vertical realignments to the study area between the High Pine Area and Sam Allen Road, and how they might affect mobility and safety or the adoption of access management regulations.

B. Proposed Mobility Plan for Corridor

Currently, MaineDOT issues permits for new or changed driveways and entrances on state and state-aid highways outside of urban compact areas. Within urban compacts, new curb cuts are completely under the jurisdiction of the Town. As a result, the standards for curb cuts vary along Route 109, as detailed in the following pages. As such, the Committee discussed options for consistency in access permitting along the corridor.

Additionally, the Committee discussed the potential to preserve right-of-way (ROW) to allow for additional capacity, possibly in the form of service roads in areas where commercial development is anticipated. In Wells, MaineDOT is acquiring additional ROW where needed and where feasible to provide a consistent 80-ft ROW along the portion of the highway that will be receiving considerable improvement (roughly between the Turnpike and the northerly High Pine Loop intersection.) However, up to 200 feet of ROW may be required and minimum setbacks vary between communities and zoning districts along the corridor.

Developing a Route 109 Mobility Plan and/or adopting a consistent set of access management rules (such as those currently used by MaineDOT) for Route 109 could provide a strong mechanism to protect the public's investment in this highway. The Corridor Committee asked for feedback from community officials on the following considerations before going further with the development of a Mobility Plan:

1. In general, the creation and/or layout of lots would remain under the jurisdiction of the respective municipality. A Mobility Plan would outline the regulation of the location and design of driveways and entrances. Before enacting a requirement for large setbacks to preserve right-of-way, an analysis will need to be done to determine how many existing structures and lots, if any, would become non-conforming.
2. The Mobility Plan would apply to all existing or proposed driveways and entrances that access Route 109 between Route 4 in Sanford and Chapel Road in Wells – inside and outside the High Pine urban compact area.
3. New curb cuts should be minimized or avoided altogether.
4. Mobility Sight Distance should be preserved. If Mobility Sight Distance cannot be met on the lot, then mitigation that provides Mobility Sight Distance elsewhere should be allowed.

5. Utilize MaineDOT’s “Change in Use” Definition, currently:
 “A change or increase in building floor area or density on the property accessed by the driveway that results in an increase in daily traffic or drainage. Examples include a change from farming or forestry use to a single-family residence or a residential subdivision or a change from residential to commercial use or a change from a single-family residence to a multi-family dwelling. A restaurant expansion adding patron capacity is a change in use. A change in ownership is not a change in use.”
6. Currently, MaineDOT issues permits for new or changed driveways and entrances outside of the urban compact areas. Within urban compacts, new curb cuts are completely under the jurisdiction of the Town. A Mobility Plan would need to be adopted by both Sanford and Wells and administered within the current planning/zoning processes of those Towns. How would MaineDOT’s permitting process fit in? The Corridor Committee discussed the potential of creating a 3-5 person Review Committee for the Route 109 corridor. The Review Committee would include members representing MaineDOT and the Towns of Wells and Sanford and could potentially be staffed by the Southern Maine Regional Planning Commission. However, there is not currently a mechanism in place that allows MaineDOT to delegate authority to a town or other entity, although the idea will be investigated further.
7. When standards are taken from other ordinances or rules, should the ordinance/rule be cited or should the standard be defined within the new ordinance? Essentially, if the ordinance or rule were changed in the future, would the Mobility Plan reflect such a change?
8. Criteria for the design and location of signs should be incorporated in order to ensure that signs could be read by drivers traveling the preferred mobility speed.
9. Which of the following standards need to be made consistent with the development of a Mobility Plan? Those listed are already controlled to some extent by the three regulatory authorities (Wells, Sanford, & MaineDOT). Are there others that should be included, such as LOS requirements from Sanford or drainage standards from MaineDOT?

- ***Sight Distance***

- MaineDOT: Mobility Sight Distance

Posted Speed (MPH)	Mobility Sight Distance (feet)
20	225
25	300
30	380
35	480
40	580
45	710
50	840
55	990
60	1,150

- Sanford: must meet MaineDOT standards
- Wells: 10 ft for every mile per hour of posted speed limit

- **Driveway/Entrance Width**
 - MaineDOT: 12-22 ft (driveway); 22-42 ft (entrance)
 - Sanford: 20-30 ft
 - Wells: “maximum width necessary for safe entering and exiting

- **Corner Clearance**
 - MaineDOT: 125 ft
 - Sanford: 50-250 ft (unsignalized); 100-500 ft (signalized); depends on whether or not the subdivision regulations apply and if so, the land use
 - Wells: not regulated

- **Driveway Spacing**
 - MaineDOT: Minimum Driveway Spacing Standards

Posted Speed (MPH)	Mobility Sight Distance (feet)
25 or less	90
30	105
35	130
40	175
45	265
50	350
55 or more	525
 - Sanford: 20-400 (depends on whether or not the subdivision regulations apply and if so, the land use and direction of turn)
 - Wells: not regulated

C. Future Action Items & Items for Further Study

The Corridor Committee identified the following future action items and items for further study:

- Continue the highway access analysis to incorporate the High Pine Urban Compact Zone in order to substantiate the perceived need for stronger access management within that zone;
- Determine how many existing structures and lots, if any, would be affected (possibly by becoming non-conforming) with the enactment of a requirement for larger setbacks to preserve right-of-way;
- Coordinate a joint meeting the Wells Board of Selectmen, the Sanford Town Council, and local and regional economic development planners to discuss the potential for a Mobility Plan;
- Investigate the potential for a corridor-based impact fee system and or Tax Increment Financing (TIF) district;
- Stay current with changes to the Downeaster service and with future plans for expanded transit services along the Route 109 Corridor;
- Further involve the Maine Turnpike Authority to follow-up with Wells’ requests and to present and discuss the traffic simulation model developed by MaineDOT; and
- Coordinate with and provide information to the Regional Needs Assessment effort.