

## 2. Existing Conditions



The NH Route 104 corridor is one of the more heavily traveled highway corridors in the Lakes Region. In 1995, the Annual Average Daily Traffic (AADT) count was 10,327 measured at the NHDOT permanent traffic counter location at Wicwas Lake. By 2005, this figure had grown to 12,406, an approximate increase of 20%. The highway also experiences some dramatic fluctuations in seasonal traffic volumes as shown in *Figure 2.1, NH Route 104 @ Wicwas Lake Monthly Traffic Counts*.

NH Route 104 east of Exit 23 in New Hampton

Figure 2.1, NH Route 104 @ Wicwas Lake Monthly Traffic Counts

<b>January</b>					
<b>Year</b>	<b>Average Sunday</b>	<b>Average Weekday</b>	<b>Average Saturday</b>	<b>Adjusted Ave. Day</b>	<b>Annual Gain/Loss</b>
2000	7,763	8,834	8,310	8,561	-
2001	7,719	9,229	8,439	8,932	4.3%
2002	7,126	9,455	9,058	9,103	1.9%
2003	7,902	9,828	7,936	9,335	2.5%
2004	7,475	9,910	8,920	9,358	0.2%
2005	7,394	9,969	8,347	9,334	-0.3%
2006	7,284	10,470	9,088	9,778	4.8%
				2010	10,378
				2015	<b>Adjusted Average Day Projection (January):</b> 11,219
				2020	12,060
				2025	12,901
<b>July</b>					
<b>Year</b>	<b>Average Sunday</b>	<b>Average Weekday</b>	<b>Average Saturday</b>	<b>Adjusted Ave. Day</b>	<b>Annual Gain/Loss</b>
2000	16,386	15,149	18,042	15,815	-
2001	16,654	15,643	18,659	16,195	2.4%
2002	17,391	16,039	18,997	16,595	2.5%
2003	17,381	16,262	18,939	16,838	1.5%
2004	16,851	16,363	18,493	16,786	-0.3%
2005	17,050	16,816	18,298	17,093	1.8%
2006	16,365	16,334	17,977	16,604	-2.9%
				2010	17,649
				2015	18,427
				2020	<b>Adjusted Average Day Projection (July):</b> 19,204
				2025	19,982

Source: NHDOT Automatic Traffic Counter Reports (January and July, 2000-2006) and LRPC Analysis (Projections)

The 2006 adjusted average daily traffic count was 16,604 in July, as compared to 9,778 in January 2006, a dramatic seasonal traffic increase of nearly 70%. As shown in Figure 2.1, other than several exceptions, overall traffic on NH Route 104 at Wicwas Lake has increased gradually on an annual basis in both the winter and summer since 2000.

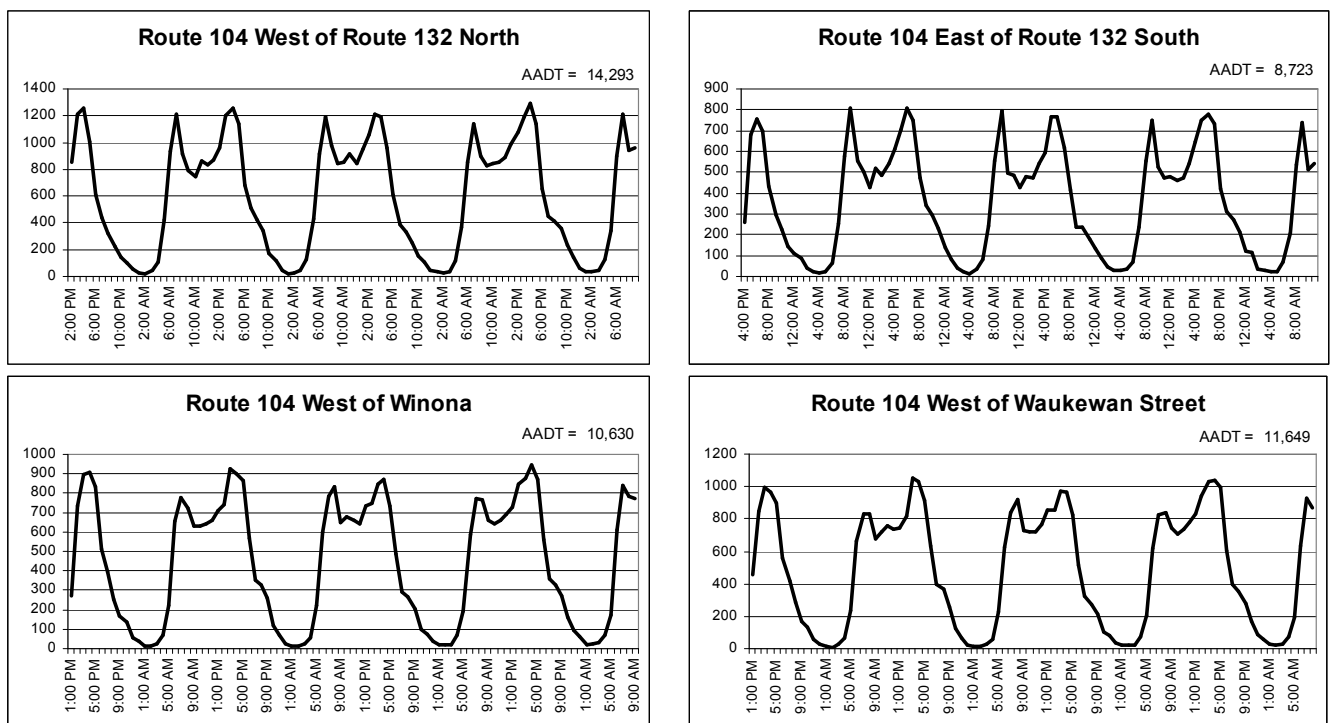
The LRPC has projected traffic counts on a five-year basis through 2025. Following the trends, the LRPC projects traffic counts to reach approximately 12,900 vehicles in January 2025 and over 19,900 vehicles in July 2025.

Using 2004 traffic data from along the corridor, NHDOT has classified the NH Route 104 along the entire study area as having a level of service (LOS) of E-F, based upon travel at the 30<sup>th</sup> highest hour of the year. This level of service indicates congestion. With traffic counts projected to continue to increase the corridor will continue to strain its capacity, especially if additional access points due to development continue to be sited along the corridor.

### Summer 2006 Traffic, Speed, and Turning Counts

Average Daily Traffic volumes were calculated at four locations in the study area using 7-day hourly automatic traffic recorder data collected during the summer of 2006. *Figure 2.2, Summer 2006 Traffic Volumes* displays the count data for each location and indicate the AADT.

Figure 2.2, Summer 2006 Traffic Volumes



Source: Lakes Region Planning Commission

Traffic volumes peaked predictably during prime commuting hours along the corridor. Peak volumes were experienced at 7:00 – 8:00 a.m. and at 4:00 p.m. The period of greatest traffic during the course of the day was consistently between 3:00 – 5:00 p.m. at all locations where

volume counts were conducted. The greatest volume of traffic was experienced near the I-93 interchange, west of NH 132 north. At this location an Average Annual Daily Traffic (AADT) of 14,293 vehicles was determined.

Speed data were collected at three locations to further assess safe travel patterns at posted speed limits. A radar gun was used to clock vehicle speeds at Outlet Road, east of Meredith Center Road, and at the junction of NH Route 104 and NH 132 South (Main Street). The length of recording time ranged from ½ to one-hour intervals, where at each location approximately 250 vehicles were clocked at two recording periods over the week of July 17-21, 2006. *Figure 2.3, Speed Count Data* displays the results of the speed counts collected. Vehicles clocked at Outlet Road and Meredith Center Road exhibited speeds generally consistent with the posted limits, where the average speed was below 55 mph. At these locations one vehicle was clocked at an excessive speed (more than 15 mph over the speed limit).

*Figure 2.3, Speed Count Data*

	Outlet Road Posted: 55 mph		Meredith Center Road Posted: 55 mph		Route 132/104 Posted: 40 mph	
	AM	PM	AM	PM	AM	PM
Average Recorded Speed	51	50	52	52	43	46
Percent of Vehicles Over Posted Limit	12%	8%	27%	33%	70%	90%
Highest Recorded Speed	65	68	66	74	60	59
Percent of Vehicles 5+ mph Over Limit	2%	1%	6%	8%	37%	57%
Excessive Speeds (15 mph Over Limit)	0%	0%	0%	< 1 %	2%	5%

Source: Lakes Region Planning Commission

At the intersection of NH 132 South and NH Route 104, the average speed of all vehicles recorded was greater than the posted limit during both intervals when the data was collected. As displayed in Figure 2.2 the vast majority of these vehicles were traveling at speeds above the posted limit and excessive speeds were observed in 2-5% of the vehicles. It is noteworthy that the first recording period took place during the peak a.m. traffic hour.

Turning movements were recorded at locations at six main intersections within the corridor. The locations were the intersection of Route 104 and: NH 132 North, Chase Road, Meredith Center Road, Dow Road, Corliss Hill Road, and Waukegan Street. Turning movements were recorded between 6:00 - 9:00 a.m. and 3:30 - 6:30 p.m. for each location. *Appendix C, Turn Count Details* contains graphics that depict vehicle movements observed during each three-hour period.

Meredith Center Road, which serves as a connector between NH Routes 104 and 106, introduced to and accepted from NH Route 104 the greatest amount of traffic of the six intersecting roads where turning movement data were collected. At this intersection, 38 percent of the eastbound traffic on NH Route 104 made a right turn onto Meredith Center Road. This movement was reversed in p.m. hours between 3:30 – 6:30 when the same number of vehicles (548) turned left from Meredith Center Road to head westerly on NH Route 104. Based on the data collected, on average, this left hand turning movement represents an automobile every 20 seconds where cars pass in either direction on NH Route 104 every 4.6 seconds on average. Gaps in NH Route 104 traffic can be observed in both directions. These gaps, likely caused by existing traffic signals, allow more time for safe passage for vehicles turning onto NH Route 104 than the averages indicate. The averages are used here to illustrate the potential for conflict exists and is consistent

with the Meredith Chief of Police's historical review of accidents in the corridor. According to this review, the intersection of NH Route 104 and Meredith Center Road generated the greatest percentage of the motor vehicle accidents town-wide.

Other significant turning movements noted were at the intersection of NH Route 104 at: NH 132 North, Chase Road, and Corliss Hill / Hatch Corner Roads. At the Chase Road intersection, while the number of turning movements are significantly less than at Meredith Center Road, alignment and slope issues present challenges for vehicles turning in either direction from Chase Road onto NH Route 104. Observations of these movements are best described as "chancy;" where site limitations decrease the operator's ability to accurately assess safe entry onto the highway. Corliss Hill Road represents another connection to NH 106 via Meredith Center Road.

### **Safety Concerns**

Early in the NH Route 104 Study process LRPC staff worked with the Study Committee and representatives of numerous businesses located along the highway to identify key safety concerns and other issues along the corridor. These locations are portrayed on *Map 2.1, Identified Safety Concerns*, with many described further in *Appendix B, NH Route 104 Business Survey Comments*. The map serves to highlight the many issues that affect the corridor, from key safety concerns such as the access to Bobby's Girl Diner in New Hampton and the section of NH Route 104 in the vicinity of Chase Road and Meredith Center Road in Meredith.

Other issues noted include the locations of potential development, residential development and commercial enterprises that generate traffic onto NH Route 104 that are outside the 1,000' boundary on either side of the highway centerline used in the development of the buildout analysis, and other activities along the corridor such as the NHDOT maintenance facility and gas pumps just to the east of Interstate 93.

### **Existing Land Use**

Land uses along the corridor are identified in *Map 2.2, Existing Land Use*. The stretch of NH Route 104 between the New Hampton/Bristol town line and US 3 in Meredith varies widely, from commercially developed in the vicinity of Interstate 93 and along the easternmost section of the corridor (east of Pease Road) in Meredith to areas more rural in nature. Much of the corridor can be suitably described as rural highway, with varied commercial uses and residences intermixed with wooded areas and wetlands.

Please note that the land use designations found in Map 2.2 denote the main use of that property. In some cases, especially in the larger residential parcels, the entire parcel was considered as residential while only a portion of that property actively in residential use.

### **Existing Zoning**

The differences in land uses along NH Route 104 in each of the two communities are clearly reflected in the marked differences in how the corridor is zoned. These differences are detailed in *Map 2.3, Existing Zoning*. With changes adopted in March 2006, New Hampton now has a mixed use (MU) zoning district in place that encompasses the commercially developed area to the east of Interstate 93. In addition, much of the remainder of the New Hampton section of the corridor

progressing easterly to the Meredith town line is classified as either Business Commercial - 2 (BC-2) or Business/Commercial - 3 (BC-3). The majority of the corridor to the west of Interstate 93 in New Hampton is classified as Village District except for a small area of General Residential near I-93.

The section of NH Route 104 between Interstate 93 and the Meredith town line contains the primary commercial land area in New Hampton. As stated in the New Hampton Zoning Ordinance, the purpose of the MU district is to “allow increased density in a limited area...” with permitted uses that include residential uses and a wide variety of commercial uses at a “traditional village scale.” The BC-2 and BC-3 districts are somewhat more traditional highway commercial zoning districts with lower densities and more conservative maximum lot coverage requirements while still permitting a range of commercial activities including professional offices, banks, restaurants and medial facilities. This emphasis is counter to the lower densities and rural uses permitted along much of the corridor in Meredith. As shown in Map 2.3, much of the corridor is zoned as Forestry and Rural, with smaller areas zoned as Shoreline and Residential. Areas zoned as Business and Industrial and Commercial Business are located to the east of the Pease Road/Winona Road intersection.

**Right-of-Way Status**

Right-of-Way (ROW) access types along NH Route 104 were determined with the assistance of NHDOT in Concord and the District 3 office in Gilford, see *Map 2.4, Access Points, Speed Zones, and Right-of-Way*. It was determined that Limited Access (LAROW), the most restrictive ROW typically allowing no access, stretches from NH 132 South to the eastern most on/off ramp on I-93. A short stretch from the Bristol/New Hampton town line to NH 132 South is also Limited Access on the north side of NH Route 104, but is Controlled Access (CAROW) along the south side.

Access points within a controlled access right-of-way area are granted as part of the public hearing process requires during the development of a highway project. Although the access points have been previously been identified, anyone seeking access to the highway in a CAROW area must follow the NHDOT driveway permitting process. A key point in a CAROW area is that although the location of the access points have been identified previously, they may be moved during the permitting process if the number of access points remains the same.

*Figure 2.4, Right of Way Length by Type\**

	New Hampton (miles)	Meredith (miles)	Total (miles)
CAROW	0.22	7.14	7.36
LAROW	2.21	0	2.21
ROW	5.74	3.66	9.40
			<b>18.97</b>

**Key:**

*CAROW – Controlled Access right-of-way*

*LAROW – Limited Access right-of-way*

*ROW – right-of-way*

*\* Based on a review of ROW status of each side of the highway*

The area from the easternmost on/off ramp of I-93 to just past the Chase Road/NH Route 104 intersection is classified as Right-of-Way, which is less restrictive than controlled access, but still requires the NHDOT driveway permitting process. The remainder of the corridor is Controlled Access. The length of right-of-way by type on each side of the corridor is shown in *Figure 2.4, Right of Way Length by Type*.

Detailed descriptions of the various right-of-way types as well as an outline of the requirements of the NHDOT driveway permitting process are contained in *Appendix F, Right-of-Way Types*.

### **Access Points**

Access point locations were initially identified using GPS and later verified at the NHDOT District 3 office through the review of access permit files and NH Route 104 mapping. The access points on *Map 2.4: Access Points, Speed Zones, and Right-of-Way*, represent those whose permanent existence and location were verified as well as those identified and mapped through field research but not found in NHDOT records or found to be a temporary access. Factors limiting the ability to verify all access points along the corridor include the following: maintenance regulations were amended in 1971, the available access permits post-dated this event; the number of access permits that were available in an automated database were few; and temporary access permits were often difficult to locate.

Despite the limitations of the data, the access points (together with existing speed zone data) represented on Map 2.4 underscore the key issue of numerous access points along a rural highway that can experience high rates of speed along specific stretches, especially in the area of the corridor from Exit 23 to the New Hampton/Meredith town line, and to a lesser extent further east to Chase Road in Meredith. It is interesting to highlight how this pattern of dense access points covers the same area of the corridor that is controlled by standard right-of-way regulations, while areas to the east and west are classified as limited access and controlled access, respectively. Upon review of these data, the need for a variety of access management strategies as described in chapter 5 of this study is readily apparent.

### **Environmental Constraints**

Environmental constraints along the NH Route 104 corridor such as hydric soils, wetlands, steep slopes in excess of 25% are presented on *Map 2.5, Environmental Constraints*. In addition, conservation lands protected by fee simple ownership or easement are shown as well. As expected, many existing and potential access point locations along the corridor are affected by environmental issues, especially along much of the town of Meredith section of the study area.

### **Parcels for Sale, December 2006**

A final indicator of activity along the NH Route 104 corridor compiled for this study is the location of parcels for sale. As shown in *Map 2.6, Parcels for Sale*, thirteen parcels accounting for nearly 190 acres were for sale in December 2006. The fact that so many parcels are for sale at this time again calls further attention to the need for the various access management strategies as the corridor continues to be developed.