Southern Pinelands Natural Heritage Trail Scenic Byway Corridor Management Plan

Task 8: Byway Segment Ratings and Strategies

August 2008

Taintor & Associates, Inc.
Whiteman Consulting, Ltd.
Paul Daniel Marriott and Associates

CONTENTS

Tables, Figures and Maps

Purpose and Approach

The purpose of Task 8 is to combine the ratings from the physical, visual and institutional surveys into a single rating for each segment of the scenic byway. These ratings are intended to be used "for determining priorities for developing management measures within the scenic byway management plan."[1]

The New Jersey Scenic Byways Program manual does not set forth a specific method for rating management capacity in the institutional survey as it does for the physical and visual surveys, nor does it define how the ratings from the three separate surveys should be combined. Therefore, the following sections summarize the results of the physical, visual and institutional surveys and explain the approach that has been developed for creating byway segment ratings based on these separate surveys.

Physical Survey

The physical survey (Task 5) combines an objective inventory of physical features visible from the scenic byway and a subjective assessment of the impact of these features on the experience of traveling along the byway. The objective part of the survey involves recording whether specific physical features are visible on each segment of the byway. For any feature that is deemed to have an impact, a score is assigned representing the degree to which the impact is positive (from +1 for minimal impact to +5 for a major defining feature) or negative (-1 for minimal negative impact, -5 for major intrusion). The positive and negative scores were then totaled separately.

The purpose of the physical survey is to identify features that should be given priority in byway corridor management. Those with high positive scores (+4 or +5) are major contributors to the byway's scenic quality, and "a high priority should be given to including management measures that protect or enhance the feature in the corridor management plan."[2] Those with high negative scores (-4 or -5) are major intrusions and "should be given a high priority for being mitigated (removed, hidden, or improved) or otherwise addressed"[3] in the plan. Those with low scores, whether positive or negative, are considered to have little impact on the traveler's experience and therefore have a lower priority in the management plan. Taking the analysis a step further than required by the New Jersey Scenic Byway Program, the Task 5 report created a "net physical survey rating" by summing the total positive and negative scores for each segment; and compared segments and areas on the basis of both the net rating score and the net rating per mile.

However, as stated above, the physical survey is designed to assist in identifying byway management priorities and not for comparing byway segments, which are defined in part on the basis of differences in physical features. Moreover, the physical survey ratings are not measures of segment quality: for example, a segment might contain several features that make significant positive contributions to the traveler's experience and yet have only a moderate visual quality rating; while another segment with a very high visual quality score might have only one defining feature (such as a dramatic vista) and thus a relatively low physical survey rating.

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[1] *The New Jersey Scenic Byways Program* (New Jersey Department of Transportation, February 1995), page 40.
[2] Ibid., page 23.
[3] Ibid.

Because the physical survey rating does not directly relate to byway quality, it was decided that the positive and negative segment scores and the "net physical survey rating" should not be incorporated in the byway segment rating for Task 8. Instead, the combined segment ratings are based only on the visual and institutional survey results.

Visual Survey

The visual survey (Task 6) involved developing a rating of the overall visual experience of traveling the byway using the concepts of visual unity, intactness, and vividness. For each byway segment, a score of 1 (lowest) to 5 (highest) was assigned to each of these three visual quality parameters, and the three scores were then averaged to produce a single visual quality rating. The results of this process are summarized in Table 1.

Table 1: Number and Length of Scenic Byway Segments by Visual Survey Rating Ranges

Visual Survey Rating	Number of Segments	Total Length of Segments	Percent of Byway Length	Average Length
4 – 5	17	28.5	22%	1.7
3 – <4	21	39.6	31%	1.9
2 – <3	24	36.8	29%	1.5
1 – <2	19	23.8	19%	1.3
Byway Total	81	128.6	100%	1.6

Source: Task 5/6 Report, Table 5

However, there was a concern that simply totaling and averaging the segment scores could understate the overall visual quality of the byway, because this approach would give shorter segments of low visual quality equal weight to longer segments with higher quality. Therefore, the analysis was taken a step further by multiplying the rating for each segment by the length of the segment, thus weighting the scores by length. Table 2 summarizes the resulting weighted ratings, which ranged from 0.17 to 25.1 (based on unweighted scores from 1 to 5 multiplied by segment lengths ranging from 0.17 mile to 7.42 miles).

Table 2: Weighted Visual Survey Ratings from Task 5/6 Report

Weighted Visual Rating	Number of Segments	Total Length of Segments	Percent of Byway Length	Average Length
>6	17	55.4	43%	3.26
>4 – 6	15	28.6	22%	1.91
>2 – 4	20	23.4	18%	1.17
0.17 – 2	29	21.2	16%	0.73
Byway Total	81	128.6	100%	1.59

Source: Task 5/6 Report, Table 6

While useful for highlighting the relative contribution of each segment to the overall byway experience, these weighted scores are not as easy to interpret as the unweighted ones. In addition, the approach of weighting by segment length does not transfer as well to the institutional survey (described below) with which the visual ratings must be combined. Therefore, for Task 8 it was decided to use the raw (unweighted) visual survey ratings rather than the weighted ones.

Before completing the byway segment ratings, the visual ratings for each segment were completely reviewed and revised. Over the course of the project, the consulting team gained

more familiarity with the byway and determined that there were some inconsistencies in the original ratings that should be corrected. Accordingly, completely new ratings for the three visual quality parameters (unity, intactness and vividness) were assigned and averaged for each segment, and the resulting scores were averaged with the original ones to create the revised visual quality ratings. Table 3 summarizes the original ratings reported in the Task 5/6 report and the revised ratings used in the Task 8 analysis.

Table 3: Original and Revised Visual Survey Ratings

Visual Survey Rating	Original Analysis (Task 6)			Revised Analysis (Task 8)		
	Number of Segments	Total Length	Percent of Byway Length	Number of Segments	Total Length	Percent of Byway Length
4 – 5	17	28.5	22%	21	29.0	23%
3 – <4	21	39.6	31%	32	65.5	51%
2 – <3	24	36.8	29%	18	21.3	17%
1 – <2	19	23.8	19%	10	12.9	10%

Institutional Survey

The Institutional Survey (Task 7) evaluated measures that are currently in place or potentially available to manage development and protect intrinsic qualities along the scenic byway route. For each segment and link along the byway, the consultants reviewed the extent of public land ownership (e.g., state forests, county parks, and other protected areas), Pinelands management areas, and local regulatory controls. On the basis of this review, the Institutional Survey report presents an assessment of the ability of local, regional and state entities to manage, protect, and enhance physical and visual features along byway.

As described in the New Jersey State Scenic Byways Program manual, the Institutional Survey is primarily a record of personal interviews, which the consultants for this project supplemented with other research. The Task 7 report therefore describes the management capacity in a narrative format. For Task 8, in order to combine the Institutional Survey findings with those from the Visual Survey, this subjective assessment was converted into a simple numeric rating from 1 to 5. In this categorization, the highest rating (5) indicates that public land ownership and/or local development controls are considered adequate to maintain and enhance the byway experience. In contrast, the lowest rating (1) means that management capacity is limited due to limited public land ownership and limited local control that could help guide future change.

Combined Segment Ratings

As described in the previous sections, both the visual and institutional survey ratings ranged between 1 and 5. There were a total of 25 possible values for the visual ratings[4] and 5 possible values for the institutional ratings. Combining these values could theoretically result in 5 x 25 = 125 separate ratings, which would be difficult to interpret and apply in the corridor management plan. Therefore, the visual and institutional survey ratings were both further simplified into three groups of “High”, “Medium” and “Low”, as follows:

[4] Averaging three visual parameters with 5 possible values each results in 13 possible ratings ranging from 1 to 5 in increments of 0.333 (1, 1.333, 1.667, …, 4.667, 5). However, the final visual survey ratings are averages of the original ratings computed for Task 6 and a second, separate assessment, which reduces the increment to 0.167 and adds 12 possible values (1, 1.167, 1.333, …, 4.833, 5).

Rating	Visual Survey Ratings	Institutional Survey Ratings
High	4 – 5	5
Medium	2 – 3.833	3 – 4
Low	1 – 1.833	1 – 2

Using these groupings, a rating combining overall *visual quality* and institutional *management capacity* was assigned to each byway segment. The rating is in the form of "X/Y", where "X" is the visual quality rating and "Y" is the management capacity rating, both coded H (high), M (moderate) or L (low), as presented in Table 4.

Table 4: Combined Byway Segment Ratings

		Management Capacity		
		High	Moderate	Low
Visual Quality	High	**H/H**	**H/M**	**H/L**
	Moderate	**M/H**	**M/M**	**M/L**
	Low	**L/H**	**L/M**	**L/L**

The goal of this Task is to help guide management recommendations for the byway as well as to prioritize areas that may need specific focus. The above rating system leads to the following general statements about management strategies:

- Segments rated "H/H" (high management capacity and high visual quality) will likely have few specific recommendations as the surveys have indicated that they have a high value in terms of the visitor's experience and they are also adequately protected to ensure that this value will be protected in the future.

- Other segments with low or moderate levels of management capacity ("_/L" and "_/M") may include recommendations for measures that can help strengthen the ability to improve or protect the byway.

- Segments with low or moderate levels of visual quality ("L/_" and "M/_") may include recommendations for improving the visitor's experience.

- Areas of specific focus will be those segments where there is strong visual quality and little or no management capacity to protect that visual quality.

Byway Segment Ratings

Overview

The combined ratings are summarized in the tables below:

Table 5: Summary of Ratings for Segments

Visual Quality	Management Capacity: High	Moderate	Low	Total
High	10	11	0	21
Moderate	25	24	1	50
Low	2	7	1	10
Total	37	42	2	81

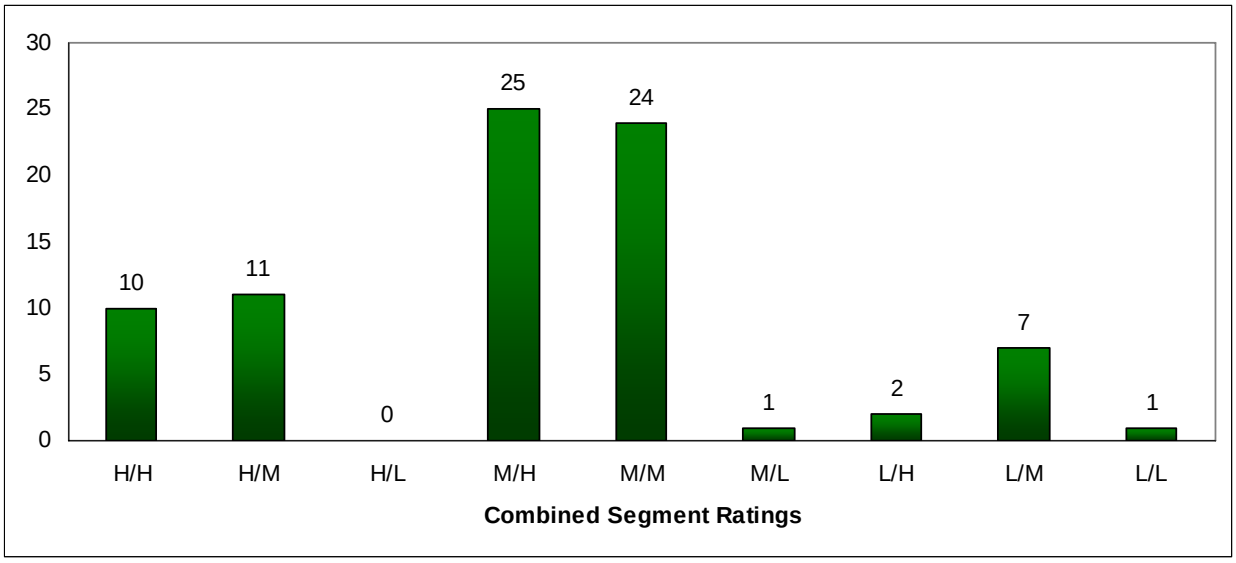
The detailed ratings for each byway segment are included in the tables in the Appendix.

As shown in Table 5, 37 byway segments have a high rating for management capacity regardless of their visual quality – collectively these represent 61 miles of the byway and fall within all counties with the exception of Ocean County. Twenty-one of the segments (representing 29 miles of the byway) have a high visual quality rating. However, only 10 segments have both a high visual quality rating as well as a high management capacity rating. Collectively, the segments with a H/H rating represent approximately 18 miles (or about 14%) of the entire byway length with almost six miles in Atlantic County, seven in Burlington, almost four in Cumberland, and about a mile and a half in Cape May County.

Of the 81 segments, the institutional survey found that only two have low capacity to manage change or preserve existing visual quality. Of those, neither were identified as having high visual quality and one was found to have moderate visual quality. The one segment with a M/L rating represents just under 2 and a half miles of the byway in Atlantic County.

Most of the byway, 86% of the segments representing over 115 miles, have moderate to high visual quality and are located in areas that have moderate to high management capacity. What this means is that, overall, there are only a few areas where change could occur that could negatively impact the byway experience. A quick overview of some of the measures that could be considered for improved management and protection in those areas is presented below.

Figure 1: Number of Byway Segments by Combined Segment Rating



Areas for Special Focus

Segment O-4, located in Little Egg Harbor Township is rated L/L, i.e., low visual quality and low management capacity. As discussed in the Institutional Survey report (Task 7), the byway does have potential to experience change along this section of the byway due to local zoning which allows additional commercial development. In terms of local regulations that can help manage change, Little Egg Harbor Township uses Site Plan Review as a means to ensure quality of development. In the future, it would be helpful to institute design standards or performance based standards. Currently in the process of adopting Cross Acceptance, which creates a partnership between the Township and the state for smart growth initiatives, it is likely that the Township will be implementing recommended changes to its land use regulations within the next few years.

Segment A-13 of the byway runs through Galloway Township and is rated M/L (moderate visual quality and low management capacity). This area has additional development possibilities and the potential for a change in character. The Township will need to consider land use regulation changes or open space acquisition in order to ensure that the byway corridor in this area either maintains its existing rural character or develops in such a way that is compatible with the historic character of other village areas along the corridor.

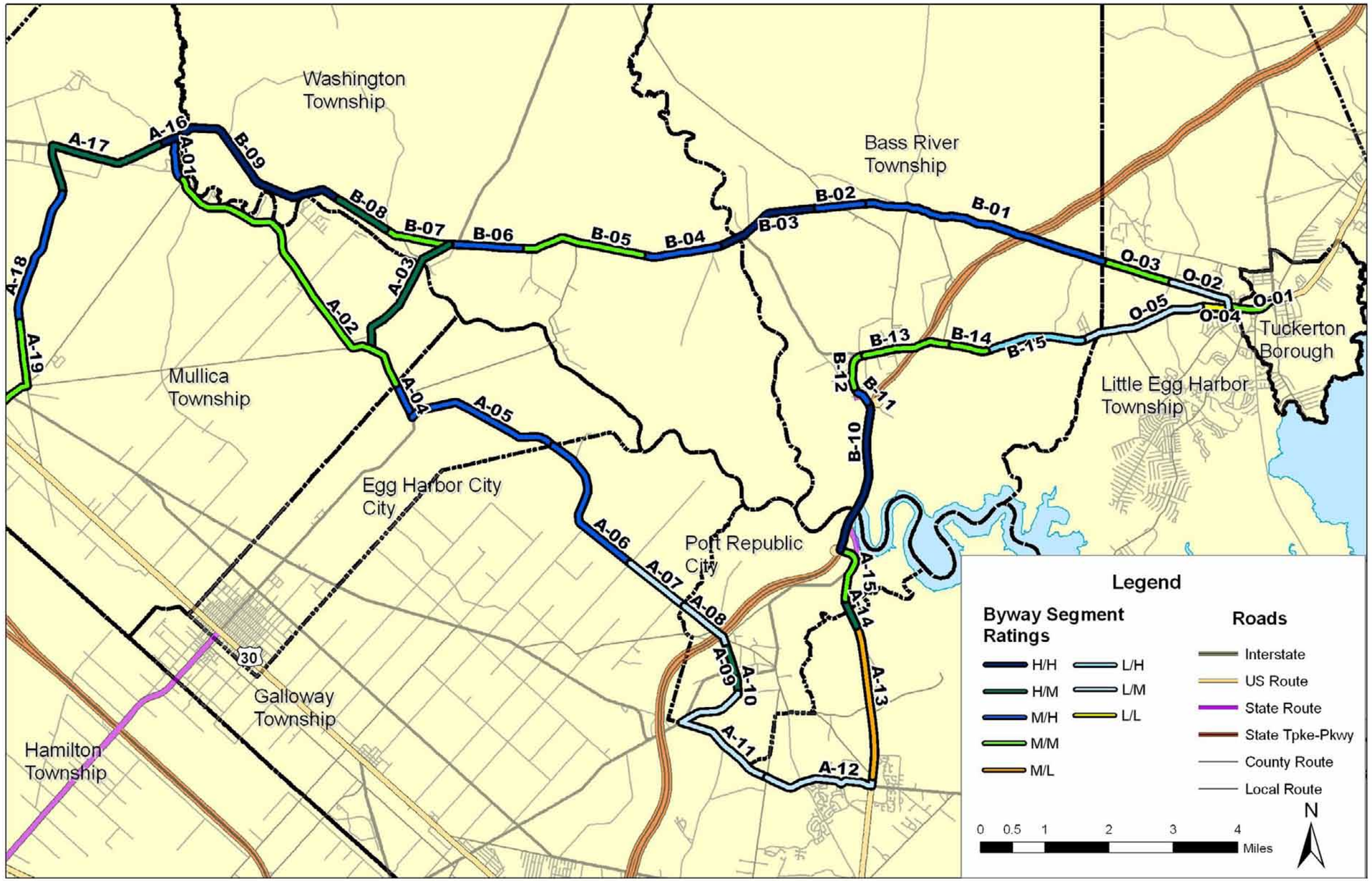
Byway Segment Maps

The segments are mapped by rating on the following three maps. Figure 2 presents the color-coding key to the Appendix and to the segment maps.

Figure 2: Key to Combined Ratings

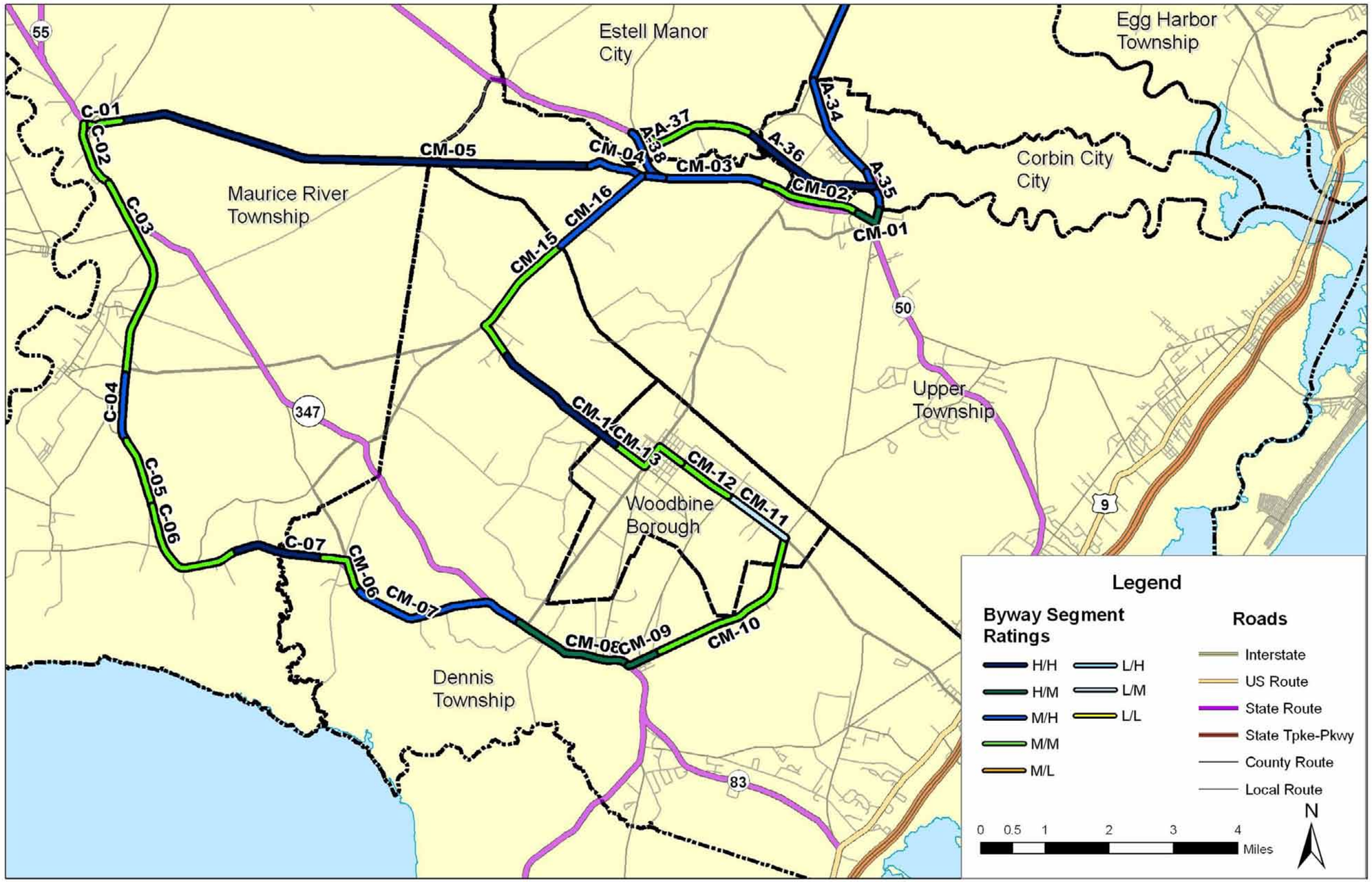
Visual Quality	Management Capacity: High	Management Capacity: Moderate	Management Capacity: Low
High	**H/H**	**H/M**	**H/L**
Moderate	**M/H**	**M/M**	**M/L**
Low	**L/H**	**L/M**	**L/L**

Map 1: Byway Segment Ratings -- Northern Loop



Map 2: Byway Segment Ratings – Middle Section

Map 3: Byway Segment Ratings -- Southern Loop



Appendix: Ratings for Byway Segments

Segment ID	Segment Length (miles)	Original Visual Survey Rating	Revised Visual Survey Rating	Visual Rating Group	Institutional Survey Rating	Institutional Rating Group
H/H – High Visual Quality, High Management Capacity						
B-09	3.04	5.00	5.00	H	5	H
A-21	2.92	4.67	4.83	H	5	H
A-16	0.26	4.33	4.67	H	5	H
A-22	0.36	5.00	4.67	H	5	H
A-36	2.22	5.00	4.50	H	5	H
B-10	2.41	4.00	4.33	H	5	H
C-07	1.66	3.67	4.17	H	5	H
B-03	1.62	3.67	4.00	H	5	H
CM-05	1.10	3.00	4.00	H	5	H
CM-14	2.71	3.67	4.00	H	5	H
H/M – High Visual Quality, Moderate Management Capacity						
A-03	2.18	5.00	4.83	H	4	M
CM-09	1.64	4.67	4.83	H	3	M
A-14	0.46	4.33	4.50	H	3	M
A-10	0.23	4.67	4.33	H	3	M
A-17	2.61	4.00	4.33	H	3	M
A-27	0.27	4.33	4.33	H	2	M
A-09	0.50	4.67	4.00	H	3	M
A-28	0.86	3.67	4.00	H	2	M
B-08	0.86	4.00	4.00	H	3	M
CM-01	0.59	3.67	4.00	H	4	M
CM-08	0.52	4.33	4.00	H	3	M
M/H – Moderate Visual Quality, High Management Capacity						
A-05	2.43	3.00	3.83	M	5	H
B-01	3.88	2.67	3.83	M	5	H
B-04	1.21	3.00	3.83	M	5	H
A-33	6.22	3.33	3.67	M	5	H
B-06	1.09	3.00	3.67	M	5	H
CM-03	3.24	3.00	3.67	M	5	H
CM-07	1.38	4.00	3.67	M	5	H
B-02	0.80	2.67	3.50	M	5	H
CM-16	0.54	2.67	3.50	M	5	H
A-18	2.16	2.67	3.33	M	5	H
A-26	3.07	3.00	3.33	M	5	H
C-04	1.40	2.33	3.33	M	5	H
A-38	0.89	2.00	3.17	M	5	H
CM-04	1.04	2.00	3.17	M	5	H

Segment ID	Segment Length (miles)	Original Visual Survey Rating	Revised Visual Survey Rating	Visual Rating Group	Institutional Survey Rating	Institutional Rating Group
A-04	0.58	2.33	3.00	M	5	H
A-06	2.46	2.00	3.00	M	5	H
A-31	0.90	1.67	3.00	M	5	H
A-01	0.69	2.33	2.83	M	5	H
A-24	0.71	1.67	2.83	M	5	H
A-35	0.64	2.33	2.67	M	5	H
A-25	1.11	2.00	2.50	M	5	H
B-11	0.31	1.00	2.50	M	5	H
A-20	1.59	1.67	2.33	M	5	H
A-32	0.84	1.67	2.33	M	5	H
A-34	1.69	1.67	2.33	M	5	H
M/M – Moderate Visual Quality, Moderate Management Capacity						
A-02	5.01	5.00	3.83	M	4	M
C-01	2.85	3.33	3.83	M	4	M
A-37	1.92	2.33	3.50	M	3	M
B-05	1.96	2.67	3.50	M	3	M
B-07	1.04	3.00	3.33	M	3	M
C-06	2.32	3.33	3.33	M	4	M
CM-12	7.42	2.67	3.33	M	3	M
B-12	0.61	3.00	3.17	M	3	M
CM-06	2.02	2.00	3.17	M	3	M
B-13	1.40	3.00	3.00	M	3	M
C-02	1.10	2.67	3.00	M	4	M
CM-02	1.04	3.00	3.00	M	4	M
CM-13	0.89	3.00	3.00	M	3	M
CM-15	1.88	2.00	3.00	M	4	M
O-01	0.76	3.00	3.00	M	4	M
A-19	2.51	1.67	2.83	M	3	M
A-15	0.94	1.00	2.50	M	3	M
B-14	0.54	2.00	2.50	M	3	M
C-05	2.18	1.67	2.50	M	4	M
CM-10	1.50	2.00	2.50	M	3	M
A-30	1.00	1.67	2.33	M	3	M
C-03	0.89	2.33	2.33	M	4	M
O-03	1.13	2.00	2.33	M	4	M
A-29	0.64	3.00	2.00	M	2	M
M/L – Moderate Visual Quality, Low Management Capacity						
A-13	2.38	1.00	2.50	M	1	L
L/H – Low Visual Quality, High Management Capacity						
B-15	1.53	1.00	1.67	L	5	H
A-23	0.17	1.00	1.33	L	5	H

Segment ID	Segment Length (miles)	Original Visual Survey Rating	Revised Visual Survey Rating	Visual Rating Group	Institutional Survey Rating	Institutional Rating Group
L/M – Low Visual Quality, Moderate Management Capacity						
A-12	1.88	2.67	1.83	L	3	M
O-02	1.03	2.00	1.83	L	4	M
CM-11	1.19	1.00	1.50	L	3	M
O-05	1.93	1.00	1.50	L	2	M
A-07	1.06	1.00	1.33	L	4	M
A-08	0.97	1.00	1.33	L	4	M
A-11	2.65	1.00	1.33	L	3	M
L/L – Low Visual Quality, Low Management Capacity						
O-04	0.44	1.00	1.00	L	1	L