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CONWELL STREET CORRIDOR SAFETY STUDY

PROVINCETOWN, MASSACHUSETTS

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EXECUTIVE SUMMARY

Provincetown's unique characteristics of narrow roadways, one-way streets and condensed population create a very pedestrian friendly environment. These unique characteristics do however, present challenges when evaluating measures to improve safety for all users of a street corridor. Consideration must be given to the needs of pedestrians, bicyclists and vehicles while maintaining the character of town.

At the request of Robert P. Anthony, Provincetown Chief of Police, the Cape Cod Commission transportation staff has performed a Corridor Safety Study for Conwell Street in Provincetown. The study provides an evaluation of existing transportation conditions and recommendations to improve safety along the Conwell Street corridor. The character of the Town, values of the community and the needs of the transportation users have been considered in the evaluation of improvement alternatives for this corridor study. In general, the study includes a presentation of the following areas:

- Existing Transportation Conditions
- Problem Identification
- 14 Improvement Options
- Staff Recommendations
- Illustrations/Examples of Improvement Options (Appendices A & B)

The staff recommendations are based on an assessment of the 14 improvement options. Recommendations are discussed for both short term and long term solutions. These recommendations as well as other improvement options are discussed in detail in this study. Staff is available to assist in the evaluation and implementation of any options the Town of Provincetown would like to advance.

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INTRODUCTION

The Cape Cod Commission (CCC) transportation staff has performed a Corridor Safety Study for Conwell Street in Provincetown, Massachusetts (see Figure 1). Staff has performed data collection and has observed traffic patterns for vehicles, pedestrians and bicycles on Conwell Street during the summer peak season. Based on this effort, staff has identified safety related problem areas and recommends measures to improve traffic flow for all modes of transportation (e.g., vehicles, bicyclist and pedestrians). The following report discusses the data collection, problem identification and recommended improvement alternatives.

Note: Throughout this report there is mention of "alternate modes" of transportation. This terminology refers to transportation modes other than vehicles. The alternate modes are primarily pedestrians (including joggers) and bicyclists, but also include other non-motorized modes (e.g., rollerbladers). "Vehicles" simply refer to cars and trucks in the report.

DATA COLLECTION

Staff collected roadway geometry data for the entire length of Conwell Street. This data collection included measurements of width, length, number of lanes and other geometric conditions along this corridor.

Staff conducted two roadway counts using automatic traffic recorders (ATR's) from August 26 to August 28 and from September 1 to September 3, 1998. The two ATR counts were located on Conwell Street south of Route 6 and north of Bradford Street. Figure 2 shows the ATR locations. This ATR data enabled staff to identify the amount and speed of traffic travelling on these two sections of Conwell Street.

Staff also conducted turning movements counts (TMC's) at two intersections during the midday peak hour (11:30 AM to 12:30 PM) to capture lunch-time activity for all modes of transportation (e.g., vehicles, pedestrians and bicyclists). The midday TMC's were performed on August 5 and August 28, 1998 at the intersections of Conwell Street/Cemetery Road and Conwell Street/Bradford Street, respectively. Figure 2 shows the TMC locations.

Detailed volume (ATR/TMC) and speed data can be seen in Appendix C in Tables C1 and C2. In addition, data collection for traffic counts can be seen in Appendix D.

With the assistance from the Provincetown Police Department, staff obtained detailed accident data information to be reviewed and evaluated as part of this report.

Roadway Geometry

The geometric data collection included a study of two distinct sections of Conwell Street; Conwell Street North and Conwell Street South. Conwell Street North is located from Route 6 to Cemetery Road and measures approximately 825 feet long

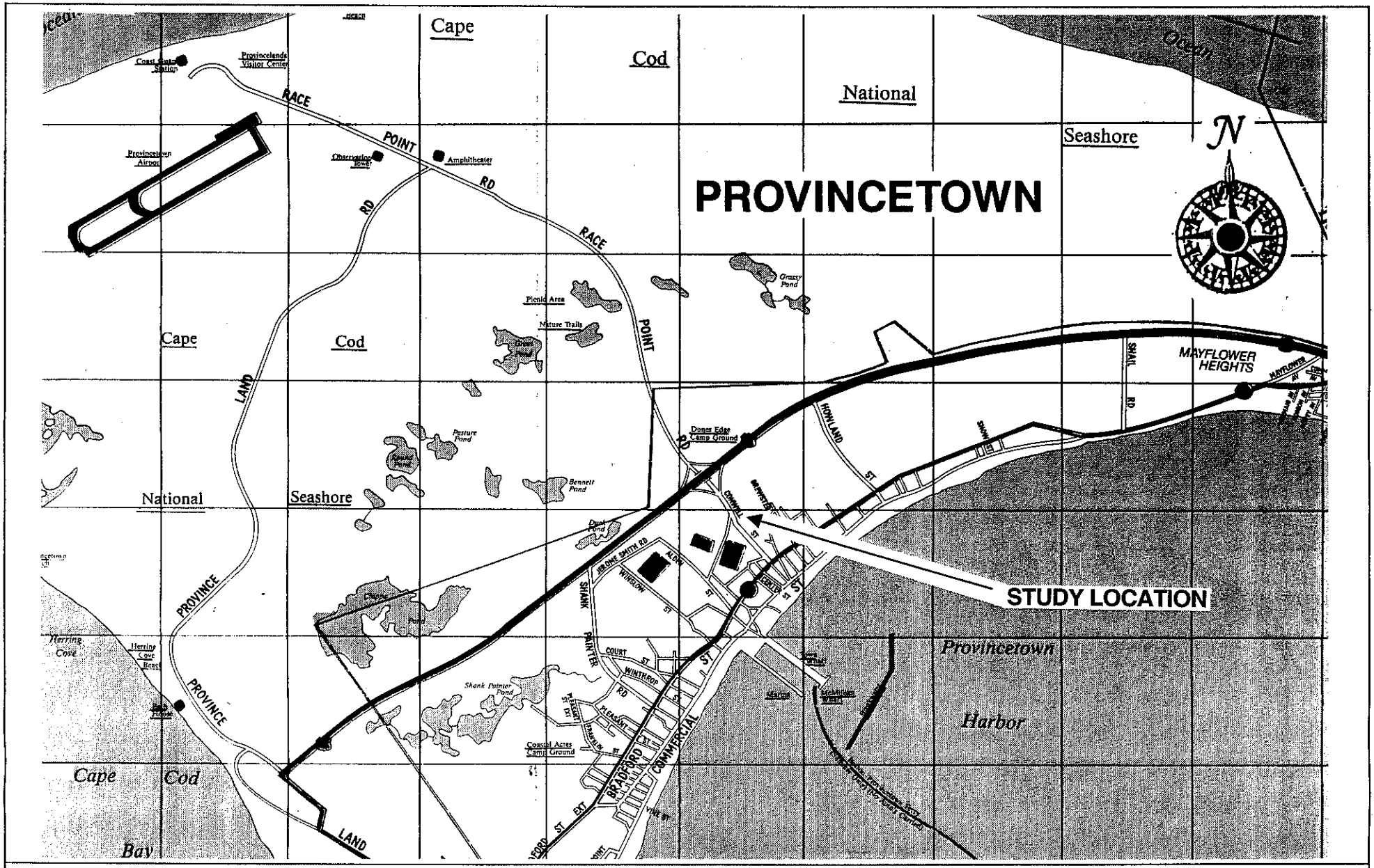


Figure 1: Study Location - Conwell Street

Cape Cod Commission

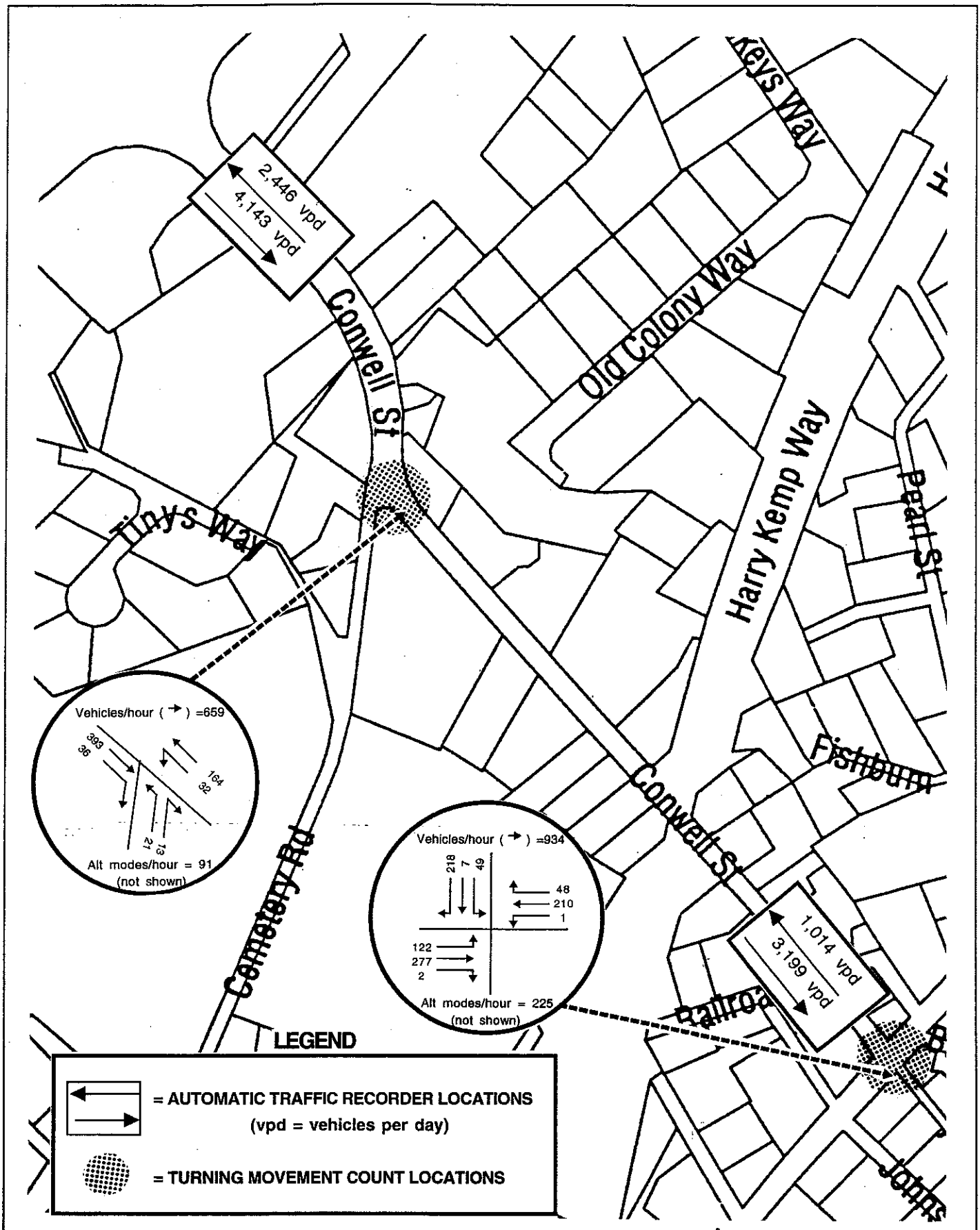


Figure 2: ATR and TMC Locations

and from 25 to 27 feet wide. Conwell Street South is located from Cemetery Road to Bradford Street and measures is approximately 735 feet long and from 19 to 24 feet wide. Although other specific roadway sections will be discussed (e.g., Conwell Street from Cemetery Road to Harry Kemp Way), this report will generally refer to the Conwell Street North and South sections.

The entire length of Conwell Street (1,560 feet) is a two-lane roadway and has a posted speed limit of 25 miles per hour.

Daily Roadway Traffic Volumes

Using the ATR data, average weekday traffic volumes were recorded for both locations on Conwell Street and are shown in Table 1 below and in Figure 2.

Table 1: Conwell St Average Daily Traffic Volumes (Summer Weekday)

	Daily Traffic Volumes (vpd)		
Location	Northbound	Southbound	Total
Conwell Street North (Between Route 6 & Cemetery Rd)	2,446 vpd	4,143 vpd	6,589 vpd
Conwell Street South (Between Cemetery & Bradford St)	1,014 vpd	3,199 vpd	4,213 vpd

vpd = vehicles per day

Based on the counts performed at these locations, the Conwell Street North location carried more traffic than the Conwell Street South location. This occurs mainly because many motorists travelling to/from Route 6 will enter/exit Conwell Street from side roads (e.g., Cemetery Road and Harry Kemp Way). The high southbound volumes at both locations suggest that many people arrive in Provincetown from Conwell Street but leave using other routes such as Howland Street, Shaink Painter Road or Route 6A.

Speed Data

Speed data was collected to determine speeds on Conwell Street. The average daily speeds at both locations on Conwell Street are shown in Table 2 below.

Table 2: Conwell Street Average Daily Speeds (Summer Weekday)

	Average Daily Speeds	
Location	Northbound	Southbound
Conwell Street North	26 mph	25 mph
Conwell Street South	22 mph	23 mph

The lower speeds at the Conwell Street South location are most likely a result of the narrower street and increased bicycle/pedestrian activity along this section of

roadway. The posted speed limit on Conwell Street is 25 miles per hour.

Intersection Traffic Volumes (Vehicles and Alternate Modes)
Turning movement counts were performed at two intersections on Conwell Street from 11:30 AM to 12:30 PM (see Figure 2). These counts were performed to identify the amount of vehicles and alternate modes entering these intersections during the peak lunch period (see Table 3 below). Staff also observed travel patterns and identified conflicts related to these travel patterns. It is important to note that rollerbladers and motorized scooters, combining for a total of five, were also counted as alternate modes.

Table 3: Midday Peak Hour Intersection Counts (Summer Weekday)

	Entering Traffic Volumes		% Alternate
Location	Vehicles	Alternate Modes	Modes
Conwell St/Cemetery Rd	659	91	12%
Conwell St/Bradford St	934	225	19%

Alternate modes = pedestrians, bicyclists, etc.

As shown Table 3 above, alternate modes account for a significant amount of the total traffic entering the Conwell Street intersections, especially at Bradford Street. This high usage indicates the need to provide safe facilities for alternate modes of transportation along Conwell Street.

It is important to note that staff observed many early morning alternate modes users on Conwell Street. It appeared that most morning users were on Conwell Street for exercise rather than recreation, which primarily occurs during the peak lunch period.

Accident Analysis
The Provincetown Police Department submitted a breakdown of recorded accident data on Conwell Street dating from 1995 to 1997. The CCC analyzed this data in an effort to identify potential conflict areas and causes. The results of the accident data for Conwell Street intersections and the entire road segment are summarized in Table 4. The "accident type" shown in the table represents vehicular only (VO) and vehicular/bicycle (V/B) accidents. There were no pedestrian type accidents identified in the accident data. A more detailed analysis of the accident data can be seen in Appendix E.

Table 4: Conwell Street Accident Summary (1995 to 1997)

	Year and Accident Type							
	1995		1996		1997		Totals	
Location	VO	V/B	VO	V/B	VO	V/B	VO	V/B
Intersections	6	1	5	0	3	0	14	1
Roadway	4	2	1	1	1	1	6	4
Totals	**10**	**3**	**6**	**1**	**4**	**1**	**20**	**5**

VO = vehicular accident only
V/B = vehicular/bicycle accident

As shown in the table above, their were a total of 25 accidents on Conwell Street of which 20 (80%) were vehicular only accidents and 5 (20%) were related to bicycle accidents. The intersections had more accidents than the roadway segment which is most likely the result of numerous conflict points (e.g., turning vehicles and bicycle/pedestrian crossings) created at intersections. More bicycle accidents occurred on the northern section of Conwell Street.

PROBLEM IDENTIFICATION

Based on field observations and evaluation of the data collection, staff has identified safety problem areas along the Conwell Street corridor. These problem areas are discussed below. Illustrations 1A through 1D show some of the specific problem locations discussed in this section.

Speeds

Observation of speed data collected by the staff did not show consistently high speeds on Conwell Street based on the posted 25 miles per hour speed limit. The speed study did reveal occasional high speeds on Conwell Street North which is probably due the fact that Conwell Street is wider at this section. In addition, it may be difficult for motorists making the transition from a high speed road (Route 6) to a lower speed road (Conwell Street) on this section.

Speeding on Conwell Street South is limited by the narrowness of the road and also the high use of alternate modes However, some motorists carry over the higher speeds from the north section (wider road) to the south section which can create safety hazards. More consistent roadway features (width, pavement markings, shoulders) would create uniform speeds. In addition, consistent roadway features maintain a driver expectancy of similar conflicts along the corridor.

It is important to note that compliance with the 25 miles per hour speed limit does not necessarily make Conwell Street a safe road for alternate modes. Alternate modes often share the same travel lane with vehicles which can be a hazard because of speed variations.

Illustration 1A: Identified Problem Areas

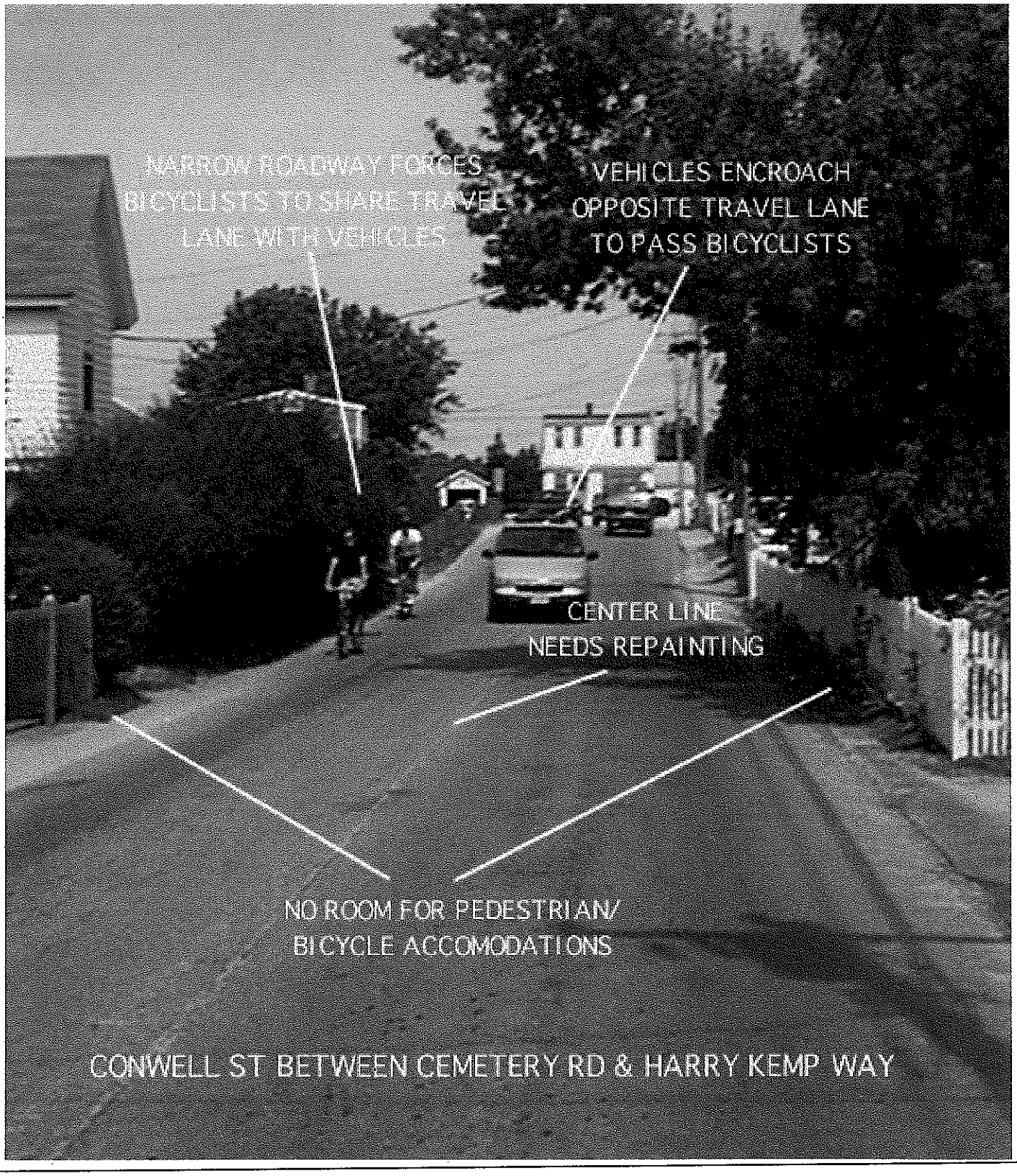


Illustration 1B: Identified Problem Areas

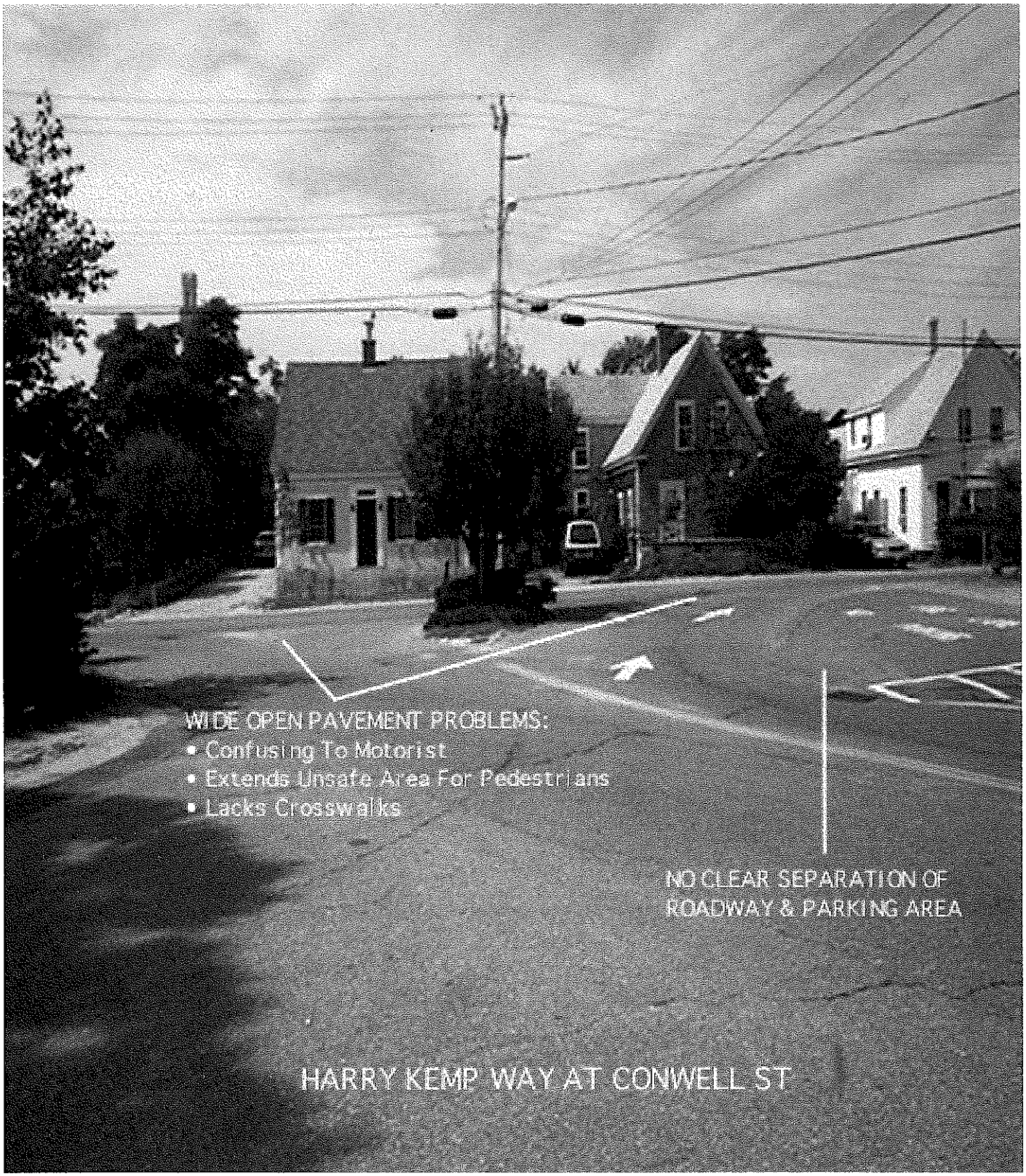


Illustration 1C: Identified Problem Areas

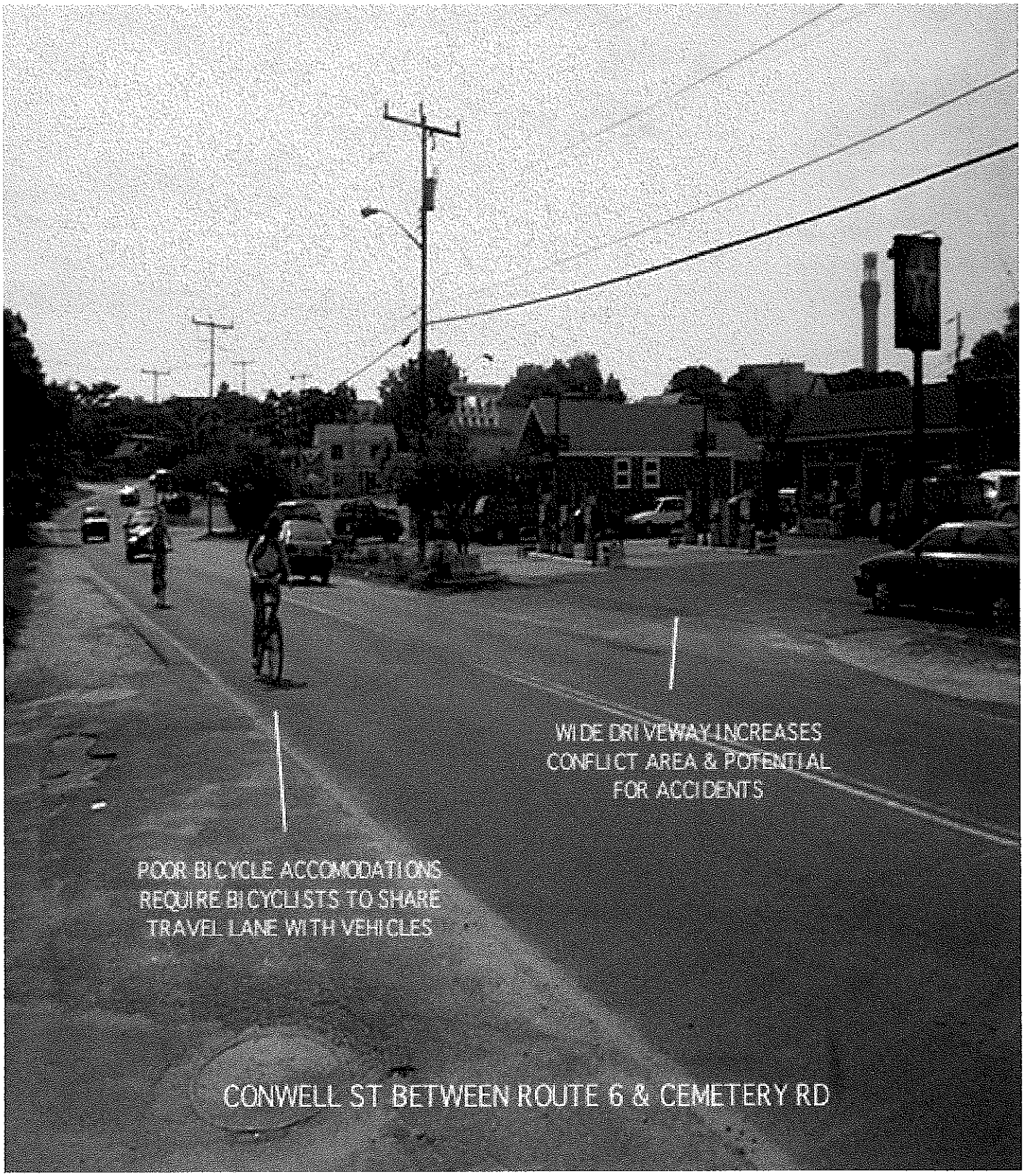


Illustration 1D: Identified Problem Areas

Conflicts Between Travel Modes

Based on midday intersection counts, a relatively high amount of alternate modes of transportation were required "share" Conwell Street with vehicles. In some cases, "sharing the road" with vehicles can be safe when there is heavy pedestrian activity (e.g., Commercial Street) since motorists are forced to slow down and be more alert to potential hazards. However, Conwell Street does not have the frequency nor the volume of pedestrians that Commercial Street has and therefore is less safe, especially during off-peak periods when alternate mode activity is low. Motorists disregard or merely do not see pedestrians in smaller numbers. Also, alternate mode use is not frequent enough to give motorists an expectation that pedestrians and bicyclists are using Conwell Street.

Pedestrian Facilities

Conwell Street does not have sidewalks or bicycle lanes. Given the amount of pedestrian and bicycle activity on this roadway some provisions should be made to accommodate them. The potential for accidents is increased on a roadway when there is no separation of vehicles and pedestrians. The pedestrians on Conwell street are forced to "share" the road with vehicles which increases the conflict and, in turn, the potential for accidents.

Crosswalks do not exist or are insufficient at intersections along Conwell Street. Crosswalks should be provided at high pedestrian intersections. For example, a crosswalk should provided across Conwell Street where it meets Bradford Street.

At the Conwell Street/Route 6 intersection the pedestrian button to cross Route 6 is not easily identifiable. The button is located on the telephone pole which is not near the pedestrian walkway. Observations revealed that people wishing to cross Route 6 did not use the button. Relocation or better signage of the button may enable people to see it and use it more often. This location is an important alternate mode link to the Cape Cod National Seashore so any improvements that enhance safety across Route 6 should be considered.

Narrow Roadway

Although the narrow road is effective in slowing speeds on Conwell Street South it still creates safety related problems for alternate modes. There is virtually no safety zone where alternate modes can get away from motorists on the road. Directly adjacent buildings and vegetation do not allow alternate modes to move out of the way in case of an emergency (e.g., out of control vehicle). The narrowness of the roadway makes it very difficult to accommodate all users of the road especially when vehicles are on both sides of the street. Trucks exacerbate this situation. The narrow roadway and right-of-way places extreme limits on the type of facilities that can be added on this section of Conwell Street.

Another problem on Conwell Street occurs when pavement markings wear out and

are difficult to see. Pavement markings such as center lines and stop lines are an important aspect of traffic control and improve safety for all transportation modes.

Illustration 1 shows some narrow sections of Conwell Street as well as the problems created by lack of alternate mode accommodations.

Poor Access Control

The Conwell Street North section is commercially developed and has numerous curb cuts (driveways) along the west side of the road. Curb cuts interrupt the flow of vehicular and bicycle traffic along Conwell Street which increases vehicle delay and the potential for accidents. Poor access control also creates unsafe areas for pedestrians. Some developments unnecessarily have more than one driveway and others have driveways that are too wide. Inadequate spacing between driveways also creates conflicts with turning vehicles.

Additionally, some locations have wide pavement areas without good channelization to control traffic. For example, the Harry Kemp Way intersection has excess pavement with no clear separation form adjacent parking areas.

Intersection Conflicts

As discussed earlier, the high volumes of alternate modes crossing intersections coupled with many vehicular turns create safety hazards at intersections along Conwell Street. Due to a narrow right-of-way on Conwell Street South (e.g., buildings adjacent to street), there is poor sight distance at the Bradford Street intersection which creates blind spots. Crosswalks are lacking where there are frequent pedestrian crossings. In addition, horizontal and vertical curves on Conwell Street near Cemetery Road limit sight distance at this location.

IMPROVEMENT OPTIONS

Based on Provincetown's unique transportation characteristics, identifying options to improve roadway safety requires evaluating creative traffic engineering concepts that are consistent with the character of the town. Provincetown is a pedestrian oriented town due to its condensed downtown area and narrow roadways. Staff recommendations to improve roadway safety encourage this concept in an effort to maintain a pedestrian friendly environment.

Based on the above considerations and observations of the Conwell Street corridor, staff has evaluated 14 improvement options to enhance safety for all transportation users along this corridor. Below is a discussion of each potential improvement option for the Town of Provincetown to consider. Advantages and disadvantages for each option as well as cost estimates, when available, have been provided. The cost estimates are highly variable so further research is required to determine actual costs. Potential funding sources for these projects are expected to include Town funds and the Town's Chapter 90 funds.

A summary of the safety improvement options can be seen in Table 5. Conceptual photographs and examples of improvement options discussed below can be seen in Appendices A and B, respectively.

Note: Several of the options below discuss "alternate mode" improvements. As discussed earlier, alternate modes refers to non-motorized travel (e.g., pedestrians, bicyclists).

Pedestrian/Bicycle Facilities

Option 1: Sidewalks

The safest way to improve pedestrian safety on roadway is to provide positive separation between the pedestrians and vehicles. Sidewalks offer the best solution to provide this separation. Currently, there are no sidewalks on Conwell Street. Pedestrians and motorist must share the road, particularly on the narrow Conwell Street South section where there is heavy pedestrian activity.

Although pedestrian activity is lower on the Conwell Street North Section, sidewalks should be considered to encourage walking trips between commercial developments and to provide safe accommodations for people walking/jogging towards the Cape Cod National Seashore (Race Point Road). A bicycle path may also be feasible on this section on Conwell Street, although it requires a wider construction (8-10 foot minimum) compared to a sidewalk (4 foot minimum).

It is recommended that the sidewalk be located on the west side of Conwell Street North. Access management techniques (see option 13) should be considered to complement the installation of sidewalks.

While the Conwell Street South section is the most logical location for a sidewalk, it is also the most difficult to construct. The limited right-of-way makes it virtually impossible to construct a sidewalk with two lanes of travel along this section. Making Conwell Street a one-way (see options 12a through 12c) may allow construction of a sidewalk at this location.

Advantages

Provides clear separation of vehicles and pedestrians. Enhances pedestrian environment.

Disadvantages

Virtually impossible to construct sidewalk on the Conwell Street South section while maintaining two travel lanes.

The construction of a sidewalk on Conwell Street South (Cemetery Road to Bradford Street) may only be feasible by changing Conwell Street to a one-way. A one-way street would create enough space for a sidewalk without the need for "taking" land. It

Table 5: Conwell Street Safety Improvement Options

No.	Improvement	Advantages	Disadvantages	Estimated Cost	Other Related Cost
Pedestrian/Bicycle Facilities					
1	Sidewalks	Provides positive separation from vehicles	Right-of-way (ROW) constraints (narrow street)	$13-25/LF	Maintenance
2	Bicycle Accommodations	Accommodates bicyclist on road/Alerts motorist	ROW constraints/May require road widening	Varies (see text)	Maint./Road upgrade
3	Crosswalks/Pavement Markings	Identifies ped area/Alerts motorist/Controls traffic	Crosswalks may create false sense of security	$6.50/LF (x-walks)	Maint./Repaint
4	Bradford St Connection	Simple fix that removes pedestrians from road	May require work on private property	$700	-
5	Relocate/Sign Rt 6 Ped Button	Ped Button is more recognizable/Increases use	None identified	$200 - $5,000	-
Signage					
6	Pedestrian/Bicycle Signs	Controls alternate modes/Alerts motorist of activity	Need uniform sign policy	$700	-
7	Share the Road/Traffic Calming	Alerts motorist & alternate modes/May reduce speed	Need uniform policy/Traffic Calming signs are new	$500	-
8	Truck Exclusions/Routing	Safer for alternate modes/Eliminates truck impacts	Adequate alternate truck routes must be identified	$1,000 - $2,400	-
9	Reroute Pedestrians	Removes peds from busy street/Direct link to Town	Increases activity on other roads/Design compliance	$1,200	-
Traffic Calming					
10	Speed Controls	Slows motorist/Improves safety for alternate modes	ROW constraints/New concept	$500 - $50,000	Maintenance
11	Volume Controls	Slows motorist/Improves safety/Reduces congestion	ROW constraints/New concept/Impacts other roads	$500 - $ 50,000	Maintenance
One-Way Streets					
12a	Route 6 to Bradford St	Contiguous design/Improves safety for all modes	Major traffic change/Business impact/MHD alterations	More Info Needed	Signs/Pvt Markings
12b	Cemetery Rd to Bradford St	Improves safety for all/Some 2-way business access	Alters traffic patterns/Impacts South businesses	More Info Needed	Signs/Pvt Markings
12c	Harry Kemp Way to Bradford St	Improves safety/2-way access to most businesses	Alters traffic patterns/Impacts some businesses	More Info Needed	Signs/Pvt Markings
Other Options					
13	Access Management	Improves access and safety for all modes	Requires approval from adjacent land owners	$500 - $50,000	Maintenance
14	Use A & P as Intermodal Link	Reduces congestion/Improves parking and safety	Must purchase land/Need alternate mode upgrades	More Info Needed	Maintenance

Notes:

- See the "Improvement Options" section of the report for detailed descriptions of advantages, disadvantages and cost for each option.
- Alternate modes refers to transportation other than vehicles (pedestrians, bicyclist rollerbladers).
- Cost Estimates: These costs are approximate and further research is required to determine actual cost. LF = linear foot.
- Other Related Cost: Maintenance typically refers to repairs, upgrades and replacement of improvement options. Pvt = pavement.

appears that available right-of-way exists on Conwell Street North to allow a sidewalk while maintaining two-way traffic.

Cost

The cost of a 4-foot sidewalk is approximately $13.00 per linear foot (LF) with a bituminous concrete and $25.00/LF with a granite curb, excluding right-of-way costs. Using the $13.00/LF design, staff has estimated sidewalk costs for three scenario's shown below:

- Route 6 to Cemetery Road: 825 linear feet of sidewalk will cost $10,725.
- Cemetery Road to Harry Kemp Way: 275 linear feet of sidewalk will cost $3,575
- Harry Kemp Way to Bradford Street: 460 linear feet of sidewalk will cost $5,980.

A sidewalk for the entire length of Conwell Street would cost approximately $20,280, excluding Right-of-Way costs.

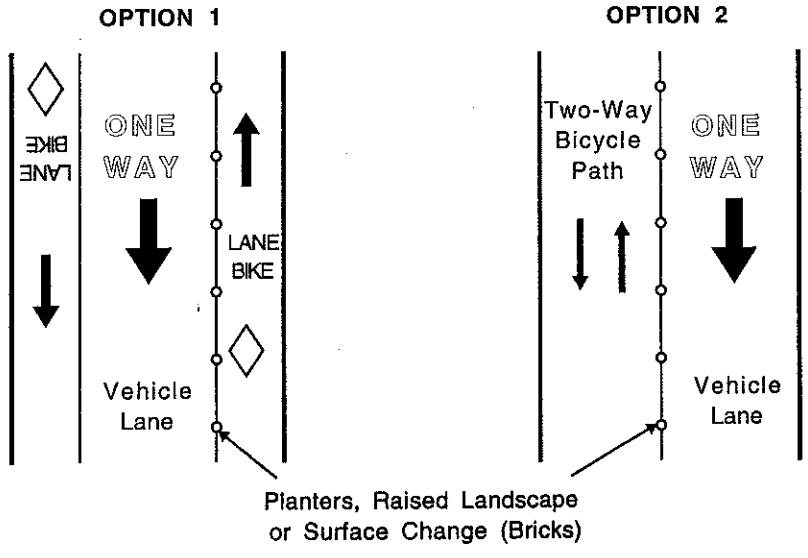
Other cost for this option would be related to maintenance.

Option 2: Bicycle Accommodations

Conwell Street's narrow right-of way limits the type of bicycle facility that can be constructed on this corridor. Based on bicycle design standards, a "shared lane" of 12 feet may be most appropriate for Conwell Street. A shared lane is used by motorists and bicyclists. Although not the most desirable, it requires the least amount of widening to accommodate bicyclists. This type of facility is possible on Conwell Street North, but may require road widening on Conwell Street South.

If Conwell Street is made a one-way (see Options 12a - 12c) it may be more desirable to construct a bicycle lane or shoulder which provides a striped lane exclusively for bicycle use. This facility could be provided on one-side or potentially both sides with appropriate separators (see Figure 3 below and photographs in Appendix B2). A one-way street may also create enough room to allow a bicycle path (8-10 feet) which would allow bicycle travel in both directions on one-path.

Figure 3: One-Way Street With Two-Way Bicycle Travel



Advantage
Provides accommodations for bicyclist on side of roadway. With signs it alerts motorist of the need to share the road. Making Conwell Street one-way could allow separate bicycle facility.

Disadvantage
Due to right-of-way constraints, bicycle facilities may not be possible on the entire length of Conwell Street which creates an inconsistent roadway design. Could require road widening to meet design standards.

Cost
If Conwell Street were changed to one-way, the street may be able to accommodate a bicycle lane or shoulder in one direction and possibly both directions with proper separation. The cost for a bicycle lane or shoulder where adequate pavement width is available would be for striping a pavement marking ($0.50/LF) and bicycle signage ($700). If required, road widening would cost approximately $55.00/LF.

It may also be possible to construct a bicycle path (8-10 feet) with a one-way street. A bicycle path cost approximately $20.00 per linear foot. Other costs for this option would be related to changing Conwell Street to a one-way (see Options 12a - 12c) and maintenance.

Option 3: Crosswalks/Pavement Markings
Due to the high volume of pedestrians and the numerous conflict points created by turning vehicles, crosswalks should be considered at intersections along Conwell Street. Staff recommends crosswalks at three specific locations: one on Cemetery Road where it meets Conwell Street, one on Conwell Street where it meets Bradford Street and one on Harry kemp Way where it meets Conwell Street. Many pedestrian crossings were observed at these locations. Crosswalks will encourage more disciplined crossings and alert motorist of pedestrian crossing areas.

To help control the flow of traffic and improve safety for alternate modes, pavement markings should be installed or repainted. Stop line markings should be placed before each crosswalk. Center line markings (yellow) should be repainted to improve traffic control.

Advantages
Clearly identifies pedestrian crossing locations. Provides better control of pedestrian crossings. Alerts motorist of pedestrian travel areas. Pavement markings improve traffic flow and safety.

Disadvantage
Crosswalks can provide a false sense of security for pedestrians crossing the road.

Cost
The cost for standard pedestrian crosswalks and stop lines are approximately $6.50 per linear foot for pavement markings. The total cost for crosswalks and stop lines at Cemetery Road ($450), Bradford Street ($250) and Harry Kemp ($800) would be $1,500. Repainted center lines are $0.72 per linear. Other costs for this option are related to maintenance such as repainting the pavement markings.

Option 4: Upgrade Connection to Bradford Street
This recommendation requires upgrading the steps on the McNulty's Market side of Conwell Street near Bradford Street. Currently, pedestrians must walk out into the busy intersection to access Bradford Street. Improving the steps will allow safe flow of pedestrians from Conwell Street to Bradford Street via the steps at McNulty's Market.

Advantage
Simple option that greatly enhances the safety of pedestrians by removing them from a busy intersection. Provides direct flow of pedestrians from Conwell Street to Bradford Street.

Disadvantage
May require work on private property. However, it is expected that store will also benefit from this measure.

Cost
The cost for repairing the steps at McNulty's Market would be approximately $700.

Option 5: Relocate or Sign Route 6 Pedestrian Button
This option requires the relocation or better identification of the pedestrian button located on the utility pole within the island where Conwell Street meets Route 6. Since relocation of the button is expensive, staff recommends installation of a sign that clearly identifies this button. An example of a pedestrian button sign can be seen in Appendix B1.

Advantage
Clearly identifies pedestrian button and encourages use of the pedestrian phase which will, in turn, reduce the potential for vehicular conflicts with pedestrians and bicyclist using crosswalks.

Disadvantage
None identified.

Cost
There are two separate options for this improvement. The first would be to relocate the actual pedestrian button to a new pole near the walkway. This would cost approximately $5,000. The second would be to simply provide better signage for the

button which would cost approximately $200. Staff recommends the second option since it is more cost effective.

Signage

Option 6: Pedestrian/Bicycle Signs

Consideration should be given to installation of signs that control pedestrian and bicyclist movements while alerting motorists of their existence. These signs can be in the form of regulatory and/or warning signs. Although bicycle route signs are a good way to direct bicyclist, they require specific roadway design standards that may not be feasible considering the limited rights-of-way on Provincetown's streets. Signs that prohibit pedestrian/bicycle use in dangerous locations can also be installed. Examples of pedestrian/bicycle regulatory and warning signs can be seen in Appendix B1.

Advantage

Controls movement of pedestrians and bicyclists. Alerts motorists of alternate mode activity along the corridor.

Disadvantage

Uniform sign policy may have to be implemented throughout the town. Designated bicycle routes need to meet specific design standards which may require roadway upgrades and widening.

Cost

The cost for providing regulatory and warning signs for alternate modes would be approximately $700.

Option 7: Share the Road/Traffic Calming Signs

When there is so much alternate mode use on a street (e.g., Commercial Street) that it slows motorists to a crawl, the "share the road" concept is obvious and signing may not be needed. However, on Conwell Street, driver expectation of alternate modes may not be as high and therefore motorist will not be "on the look out". In this case, it is advisable to install "Share The Road" or traffic calming signs. "Share The Road" signs are specifically for bicyclist while the traffic calming signs are for all modes of transportation. These signs alert motorist and alternate mode users that they must all share the roadway together. Examples of "Share The Road" and traffic calming signs are shown in Appendix B1.

Advantages

Alerts motorists and alternate modes that they must share the road. This can reduce speeds and improve safety for all users of the corridor. "Share The Road" signs do not need to meet roadway design standards (e.g., widening for shoulders/lanes).

Disadvantages
Driver's may develop an expectation that there is no need to be alert for alternate modes if a street does not have these signs. In order to achieve uniformity of share the road policies, signs may need to be installed at other similar roadways. "Share The Road" signs are used for bicyclist only. Traffic calming signs are a European concept that has not been nationally recognized to date. The appropriateness of a traffic calming sign for all users requires further research on the staff's part.

Cost
The cost for providing "Share The Road" or traffic calming signs would be approximately $500.

Option 8: Truck Exclusions/Routing Signs
This option recommends prohibiting through trucks on Conwell Street. Heavy vehicles consume more space and therefore create additional safety hazards along a narrow road. In addition, alternate modes require more shy distance from trucks due to their characteristics (noise, size, fumes). Conwell Street from Harry Kemp Street to Bradford Street may be the most appropriate section to prohibit trucks since it has the fewest businesses and is extremely narrow at this location.

Advantages
Removes safety hazards created by heavy vehicles on Conwell Street. Creates better environment for alternate modes by eliminating fumes, noise and visual impacts caused by heavy vehicles.

Disadvantages
Requires delivery trucks to alter routes within Provincetown street system. Adequate alternate routes must be available for trucks. Requires Massachusetts Highway Department approval.

Cost
The cost for this option includes truck exclusion signs as well as truck route signs to redirect this traffic. The cost ranges from approximately $1,000 to $2,400 depending on the length of roadway that would exclude trucks.

Option 9: Reroute Pedestrians
In an effort to minimize conflicts with vehicles on Conwell Street, signs could be installed to encourage different routes for pedestrians. Signs could be installed to discourage pedestrians from using Conwell Street and/or to encourage use of alternate routes. For example, signs could direct pedestrians down Cemetery Road and route them to either of the following:

1. to the cemetery path to Standish Ave to Standish Street, or
2. to Wareham Street to Standish Ave to Standish Street, or

3. to Standish Street.

These alternate roads carry less traffic which would minimize the accident potential for pedestrians. This option offers a nice view of the Pilgrim Monument and links to sidewalks on Standish Street which directly leads to MacMillan Wharf and the center of town.

Although bicyclists could also be rerouted, designating bicycle routes requires specific design treatments which is may not be feasible considering the limitations of the alternate routes being proposed.

Advantages
Removes pedestrians from busy Conwell Street which minimizes conflicts with vehicles. Provides direct connection to town center and MacMillan Wharf with nice views of Pilgrim Monument.

Disadvantages
Designating pedestrian routes may require specific safety features (e.g., sidewalks/paths) which may not be feasible on some routes. Minimizes pedestrian activity along Conwell Street which may impact businesses. Increases activity along normally unused roads which may invade privacy. May create a security problem since back roads are not well lit at night. The cemetery closes from 7 PM to 6 AM each night.

Cost
The cost for signage to redirect alternate modes of transportation would be approximately $1,200.

Traffic Calming
Traffic calming strategies consist of a variety of techniques designed to slow down traffic, divert traffic to another road and/or encourage a mode change (e.g., shifting from driving to walking or bicycling). Traffic calming measures have been very successful in Europe and have recently shown positive results in the United States.

Traffic calming measures implemented on Conwell Street will minimize the vehicular/alternate mode conflicts while improving the visual character of the corridor. Staff has evaluated two options for traffic calming: speed control and volume control. Speed controls are more widely used than volume controls since diverting traffic (i.e. volume control) may impact parallel roads. Benefits are generally the same but the techniques used are different. The two options are discussed below:

Option 10: Speed Controls
This option provides techniques that slow vehicle speeds while maintaining traffic flow throughout the corridor. Slowing vehicle speeds will enhance the safety for alternate

modes travelling on the road. Some of the more common speed control techniques used in the United States are discussed below.

• Roundabouts - Slows vehicles and improves safety at intersections by creating circular traffic patterns.
• Channelization - Diverts traffic and improves safety for pedestrians by providing pedestrian refuges and mid-block median islands.
• Speed Humps - Unlike speed bumps, this treatment provides a long gradual pavement change to slow vehicles. Can be permanent or portable.
• Speed Tables - Similar to speed humps, this treatment is constructed with a flat portion which doubles as pedestrian crosswalk.
• Angle Points - Diverts traffic and narrows road to minimize speeds.
• Road Surface changes - Highlights slow travel zones (pedestrian activity areas) by altering the surface type of the road (e.g., cobblestone, brick pavers, textured brick).

Advantages
Slows vehicles on Conwell Street. Improves bicycle/pedestrian safety along the corridor. Creates a pedestrian-friendly environment.

Disadvantage
The unique characteristics of Conwell Street may limit installation of certain traffic calming techniques. Traffic calming is a new idea and has not yet been adopted on a national level even though is has proven successful in Europe and some U.S. cities. There may be some liability issues associated with uncertainties in implementing new techniques. Certain techniques can make snow plowing difficult.

Cost
The cost for individual speed control improvements can range from $500 to $15,000. A comprehensive speed control traffic calming design for the entire length of Conwell Street could cost up to $50,000. Staff can develop a range of costs for several traffic calming scenarios depending on the fiscal limitations of the Town.

Option 11: Volume Controls
This option is similar to the speed control technique except that it discourages vehicles from travelling along a roadway. Measures installed make it time consuming and inconvenient for motorists travelling along a corridor. Therefore, speed and traffic volumes are reduced making it safer for alternate modes. Some of the more common volume control techniques used in the United States are shown below:

• Intersection Diverters - Improves flow and safety at intersections by providing right-in-right-out only traffic movements, raised curbs, traffic islands and physical barriers.
• Street Closures - Closes street to through-traffic and creates pedestrian environment.
• Street Narrowing - Also referred to as chokers and slow points, this treatment creates a narrow road to slow vehicles. This measure is more appropriate for the wider

Conwell Street North section. Installation of this measure on Conwell Street North will create a more consistent design for the entire length of Conwell Street.

Advantage
Slows vehicles and reduces traffic congestion on Conwell Street. Creates a preference for alternate modes of transportation by providing safe bicycle/pedestrian accommodations. Creates a pedestrian-friendly environment.

Disadvantage
The unique characteristics of Conwell Street may limit installation of certain traffic calming techniques. Traffic calming is a new idea and has not yet been adopted on a national level although is has proven successful in Europe and some U.S. cities. There may be some liability issues associated with the uncertainties in implementing new techniques. Impacts are created on other streets by the diversion of traffic from Conwell Street. Certain techniques can make snow plowing difficult.

Cost
The cost for individual volume control measures can range from $500 to $7,000. A full range of volume control techniques installed on Conwell Street could cost up to $50,000. Staff can develop a range of costs for several traffic calming scenarios depending on the fiscal limitations of the Town.

The most effective use of the traffic techniques discussed in options 10 and 11 above is to integrate an assortment of individual designs to provide a comprehensive plan for Conwell Street. Examples of traffic calming treatments are discussed in detail along with illustrations in Appendix B2. If the Town of Provincetown elects to implement traffic calming strategies, staff can discuss and develop a plan, with estimated cost, that is appropriate for Conwell Street.

One-Way Street
Changing Conwell Street to a one-way street could minimize many alternate mode/vehicular conflicts. Motorists are more attentive of alternate modes on one-way streets since they don't have to monitor as many vehicle related conflicts (e.g., approaching vehicles, turning vehicles). One-way streets also simplify pedestrian crossings since traffic is only coming from one direction. In addition, a one-way street may allow room for a sidewalk which would further enhance safety for pedestrians.

A one-way street southbound (towards Bradford Street) is more appropriate than northbound for two reasons. Firstly, as shown back in Table 1, the southbound traffic volume is much higher than the northbound indicating the need to preserve the more utilized southbound movement. Secondly, Conwell Street is an important connector road for people exiting Route 6 to get into the town center. There is more time and choices for people leaving town rather than arriving.

There are two sides of the argument when discussing impacts to businesses when a street is changed from a two-way to a one-way. The number of motorists travelling to businesses may decline due to the change in travel patterns. However, creating a pedestrian friendly corridor (e.g., Commercial Street) encourages more activity which could increase business. Vehicular-reliant businesses (e.g., gas stations) would experience negative impacts related to this concept.

Without bicycle facilities (path or lane), bicyclists would have to follow the same "rules of the road" as vehicles on a one-way street (i.e., bicyclists could only travel one-way southbound and would have to dismount in the northbound direction). However, with proper separation, it may be possible to incorporate bicycle traffic on each side of the one-way street, thereby allowing north and south travel on Conwell Street.

Staff has evaluated three different segments of Conwell Street that could be made a one-way. Options 12a through 12c are discussed below.

Option 12a: Route 6 to Bradford Street

This option requires making the entire length of Conwell Street one-way southbound. While this option can greatly improve safety for all users of the corridor it requires the most significant adjustment in travel patterns.

Advantages

Allows for contiguous design of the corridor and enhances safety for the entire length of Conwell Street. Provides a pedestrian friendly environment.

Disadvantage

Creates a major change in travel patterns for Provincetown. Requires redesignation of travel patterns (with new design) and signage on state highway Route 6 which requires approval from the Massachusetts Highway Department (MHD). Requires rerouting of patrons/delivery trucks to access the site. Traffic volumes would increase on other roads providing access to Route 6.

Cost

The cost for this option would be related to removing, relocating and installing signs and pavement markings. Another cost would be for alterations required on state highway Route 6 (under the jurisdiction of MHD). Although it requires further research, it is expected that this option could be cost prohibitive. Due to the cost and potential difficulties related to approval from the MHD, this may not be a feasible option.

Option 12b: Cemetery Road to Bradford Street

This option requires making Conwell Street one-way southbound starting at Cemetery Road. It allows for two-way access to businesses along the North section of Conwell Street while improving safety for the narrow South section of Conwell Street.

Advantages
Allows vehicular access to Conwell Street North businesses. Improves safety for all transportation users on the narrow Conwell Street South section. Creates pedestrian friendly environment.

Disadvantages
Creates a change in travel patterns where Cemetery Road and connecting roads would experience more traffic. Limits vehicular access to businesses on Conwell Street South. Increases traffic on other roads, especially the less travelled Cemetery road.

Cost
The cost for this option would be related to removing, relocating and installing signs and pavement markings. Costs related to impacts and signage on other streets needs further research before estimates can be made for this option. Staff can perform a more detailed analysis of this option per the Town of Provincetown's request.

Option 12c: Harry Kemp Way to Bradford Street
This option requires making Conwell Street one-way southbound starting at Harry Kemp Way. This option would maintain two-way vehicular access to businesses from Route 6 to Harry Kemp. It also maintains two-way travel from Conwell Street (north) to/from Harry Kemp Way (east).

Advantages
Allows two-way vehicular access to most of Conwell Street businesses. Maintains two-way travel from Conwell Street North to Harry Kemp Way. Improves safety for transportation users on this narrow section of Conwell Street. Creates a pedestrian friendly environment.

Disadvantages
Creates a change in travel patterns, although less significant than the other one-way options. Increases traffic on other roads, though not as significant an impact as other one-way options. Requires alternate modes to share the narrow roadway where two-way traffic begins at Harry Kemp Road.

Cost
The cost for this option would be related to removing, relocating and installing signs and pavement markings. Cost related to impacts and signage on other streets requires further research. Staff can perform a more detailed analysis of this option per the Town of Provincetown's request.

Other Options
Option 13: Access Management
The implementation of an access management plan can provide better access to

development while improving the flow and safety for all transportation modes along Conwell Street. Access management techniques include, but are not limited to, the following:

- Limit the number of driveways
- Limit the width of driveways
- Consolidation (sharing) of driveways by adjacent developments
- Increase the spacing between driveways
- Improve channelization (e.g., islands) at intersections/driveways

The above techniques reduce conflict areas for vehicles. Better controlled vehicles also improves the safety for alternate modes, especially at commercial driveways. Access management can be installed at existing developments or at future developments. For example, redevelopment of the old A & P parcel could include access management measures such as fewer driveways and connections to adjacent developments.

Unfortunately, not all business owners are willing to alter their driveways. These owners must be educated about the potential benefits related to access management (e.g., improved flow to their site, better parking configuration, reduction in number of accidents and potential increase in patrons).

Advantage
Provides better access to developments while improving the flow and safety for all transportation modes along Conwell Street. Minimizes accident conflict areas.
Creates a more pedestrian friendly environment.
May increase business.

Disadvantage
Requires cooperation of existing businesses along Conwell Street.

Cost
This option varies depending on the access management techniques implemented. The cost can range from approximately $500 (for one technique) to $50,000 for a complete access management plan. If the Town pursues this option the staff can develop a plan, with cost estimates, that is appropriate for Conwell Street.

Option 15: Utilize Old A & P as Intermodal Link
This option would use the old A & P Parcel as a intermodal link for tourists travelling into Provincetown. The parcel could be used as a parking lot for tourist entering Provincetown at which point they could use alternate mode options to get to their destinations. The alternate mode options could include the following:

- provide bicycle rentals

- construct sidewalks so people can walk to town
- provide local trolley stop at this location
- provide shuttle service to town center from parking lot
- install bus shelter and/or benches

This concept would prevent motorist from entering the congested town center area (e.g., Commercial Street and Bradford Street) by encouraging use of the alternate mode options. Similar to ferry parking for island travellers, people could leave their vehicles at the parking lot and pick them up upon leaving Provincetown.

It is important to note that any redevelopment of this parcel should include access management measures (see Option 13).

Advantage
Reduces traffic congestion in the town center area. Would relieve some of the parking problems occurring in Provincetown during the summer. Encourages tourists to experience the pedestrian friendly Provincetown on foot without the worries of traffic and parking.

Disadvantage
Requires town to purchase or lease this parking lot (although shared parking could be used). Requires upgrades to the site including access improvements, sidewalks and other amenities to accommodate alternate modes of transportation.

Cost
The cost for this option varies widely depending on what type of measures are implemented. Purchase of the property would be the most expensive. Other costs would be related to providing sidewalks and/or servicing this location with public transportation. If requested, staff can develop a plan with specific improvement measures and costs for this option.

CONCLUSION AND RECOMMENDATIONS

The unique transportation characteristics of Provincetown's street system required a creative approach to evaluate safety improvements along the Conwell Street corridor. The setting of the area, the values of the community and the needs of the transportation users have all been considered in the evaluation of improvement alternatives for Conwell Street.

Based on traffic data collection and observation of existing traffic patterns (including alternate modes and vehicles) on Conwell Street, the CCC transportation staff has developed a number of options to improve safety for all users of Conwell Street. The Town of Provincetown may wish to use one or a combination of the improvement options discussed in this report. Below staff has recommended short term and long term options that were deemed most beneficial and cost effective for the specific study

area. Financing for these improvements are expected to come from Town funds or from Town Chapter 90 funds. These recommendations are not ranked by order. Illustrations and photographs of improvement options discussed below as well as others are shown in Appendix A and B.

Short Term Recommendations

The short term recommendations discussed below are generally low cost options that could be easily implemented in a short time frame with immediate benefits.

#3 Crosswalks/Stop Lines & Center Lines (Standard White Pavement Markings)

Crosswalks direct pedestrians to safe crossings and alert motorists of pedestrian activity areas. This option is expected to reduce vehicular/pedestrian conflicts and, in turn, reduce accident potential at intersections. Stop lines should also be installed with the crosswalks. Where needed, center lines should also be repainted.

COST: $1,500 ($450 for the crosswalk and stop line at Cemetery Road, $250 at Bradford Street and $800 at Harry Kemp Way). Repainted center lines cost $ 0.72 per linear foot. Additional costs would be related to maintenance.

#4 Bradford Street Connection

This option is a low cost measure which is expected to significantly enhance the safety for pedestrians travelling from Conwell Street to Bradford Street. It removes pedestrians from a busy intersection which minimizes vehicular/pedestrian conflicts.

COST: $ 700.

5 Route 6 Pedestrian Button Sign

Conwell Street and Race Point Road are critical links for alternate modes as they travel from the town center to the Cape Cod National Seashore. Route 6 is part of this link and should provide safe crossings. To enhance the use of the pedestrian button staff recommends that a sign be located to clearly identify where the pedestrian button is located. Relocation of the pedestrian button closer to the walkway would further enhance safety but may not be cost effective. This simple measures will improve the safety for alternate modes crossing Route 6.

COST: $200 for a sign. Relocation of pedestrian button would cost an additional $5,000.

#6 Pedestrian/Bicycle Signs and/or #7 Share the Road/Traffic Calming Signs

Installation of signs to control the movement of alternate modes and alert motorist of their presence are a low cost solution that can improve safety for all modes of transportation.

COST: $1,200 ($700 for regulatory and warning signs and $500 for SHARE THE

ROAD or traffic calming signs).

10 Traffic Calming Techniques

Traffic calming measures such as speed controls can slow the speed of vehicles while providing safe areas for pedestrians. Recommended measures include road surface changes and speed tables/humps.

COST: Costs for traffic calming measures at crosswalks and intersections are itemized for three different pavement types: street print (fake brick printed on asphalt), brick pavers (actual brick) and cobblestone. Additional costs would be related to maintenance.

For crosswalk with altered pavement surface:

• Street Print	$10.00/square foot	$10,500 for 3 crosswalks
• Brick Pavers	$20.00/square foot	$21,000 for 3 crosswalks
• Cobblestone	$30.00/square foot	$31,500 for 3 crosswalks

Altered pavement surface for entire intersection (Conwell/Bradford St):

• Street Print	$9,120
• Bricks	$18,240
• Cobblestone	$27,360

For speed humps on roadway:

• Raised surface	$2,000/speed hump	$8,000 for 4 humps

A speed hump would cost more if it included one of the pavement surface changes shown above. Temporary speed humps (see Appendix B2) can be installed if the Town wants the option to relocate them. Four portable speed humps would cost approximately $13,600.

Long Term Recommendations

The long term recommendations discussed below are comparatively higher cost options that require more time to implement based on a full review of impacts and the time needed to obtain approvals.

#1 Sidewalks and/or #2 Bicycle Accommodations on Conwell Street North

Conwell Street North may be wide enough to construct a sidewalk and/or bicycle accommodations without requiring major alterations to the roadway. A sidewalk is recommended on the west side of Conwell Street from Route 6 to Cemetery Road. Bicycle accommodations may be possible with a shared lane, bicycle lane or a shoulder.

COST: A sidewalk from Route 6 to Cemetery Road would cost approximately $10,725. The cost for a shared lane, bicycle lane or shoulder where adequate pavement width

is available would be for striping a pavement marking ($825) and bicycle signage ($700). If required, road widening would cost approximately $55.00/LF. Further research is required to identify the need for widening. Additional costs would be related to maintenance.

#10 and #11 Traffic Calming Techniques

Traffic calming measures can have an effect on vehicle speeds as well as the volume of traffic. Volume controls such as diverters (prohibits certain movements) may discourage motorist from travelling on a road. If the Town wishes to divert traffic from Conwell Street the CCC staff will develop a traffic calming plan to address this objective. Staff recommends speed controls which are more widely used than volume controls. Recommended speed controls include roundabouts, chicanes and chokers. Chicanes and chokers slow vehicle speeds by narrowing the road and changing the path of vehicles. Below is a range of cost for these measures. Additional costs would be related to maintenance.

- Roundabouts - $2,000 to $15,000 depending on design. This technique could be installed at the Conwell Street/Cemetery Road intersection and possibly at the Harry Kemp Way intersection if right-of-way is available.
- Angle Points - Cost approximately $1,000 to $5,000. Approximately 4 could be installed on Conwell Street for a cost of $4,000 to $20,000.

#12b or #12c One-Way Street Southbound With #1 Sidewalks and/or #2 Bicycle Accommodations

Changing Conwell Street to a one-way street southbound creates opportunities to improve safety for alternate modes by providing room for pedestrian and/or bicycle accommodations. Option 12b is more beneficial for alternate modes but has a greater impact on vehicular traffic compared to option 12c. Both options are discussed below:

Option 12b - Cemetery Road to Bradford Street: This option is better for alternate modes since it creates room for a pedestrian and/or bicycle facility from Bradford Street to Cemetery Road. Coupled with accommodations (e.g., bicycle lane and/or sidewalks) on the wider Conwell Street North section, this measure would improve safety for the entire length of Conwell Street. The disadvantage of this option is that it inconveniences motorists and may increase traffic on adjacent local roads (especially Cemetery Road).

Option 12c - Harry Kemp Way to Bradford Street:
Although this option creates room for a pedestrian and/or bicycle facility from Bradford Street to Harry Kemp Road, it still requires alternate modes to share the narrow road segment from Harry Kemp to Cemetery Road). This option does however, allow two-way vehicular access to Harry Kemp Road from Conwell Street North, thus minimizing impacts on adjacent local roads.

COST: The cost of these two options requires further review to determine the feasibility of certain measures within each option. Costs for changing to a one-way street are related to removing, relocating and installing signs and pavement markings. Costs for constructing alternate mode facilities vary depending on the facility constructed. Additional costs would be related to maintenance.

#13 Access Management

Access management techniques installed on Conwell Street can improve the flow of traffic while enhancing safety for alternate modes. Access management is appropriate for the Conwell Street North section and at the Harry Kemp Way intersection.

COST: Below are a list of recommended measures with costs:

- Reduce width of driveways - $500 to $2,000 per driveway
- Interconnect adjacent parcels - $500 to $5,000 per connection
- Share driveways - $2,000 to $10,000
- Install channelization - $1,000 to $10,000
- Limit the number of driveways - Town should a adopt a policy for new development

#14 Utilize Old A & P Parcel as Intermodal Link

Use of this parcel could provide three benefits to Provincetown. It could reduce traffic congestion, relieve parking problems and provide a safe and pedestrian friendly environment. This option would require a range of measures to be fully effective.

COST: Costs would be related to purchasing (listed price is $500,000 for entire site) or leasing the land, providing transit to this location and/or constructing alternate mode facilities (e.g., bus shelter, sidewalk/bicycle accommodations) so tourist can leave their vehicles at the site. A more detailed review of each measure implemented is required before a cost can be estimated for this option.

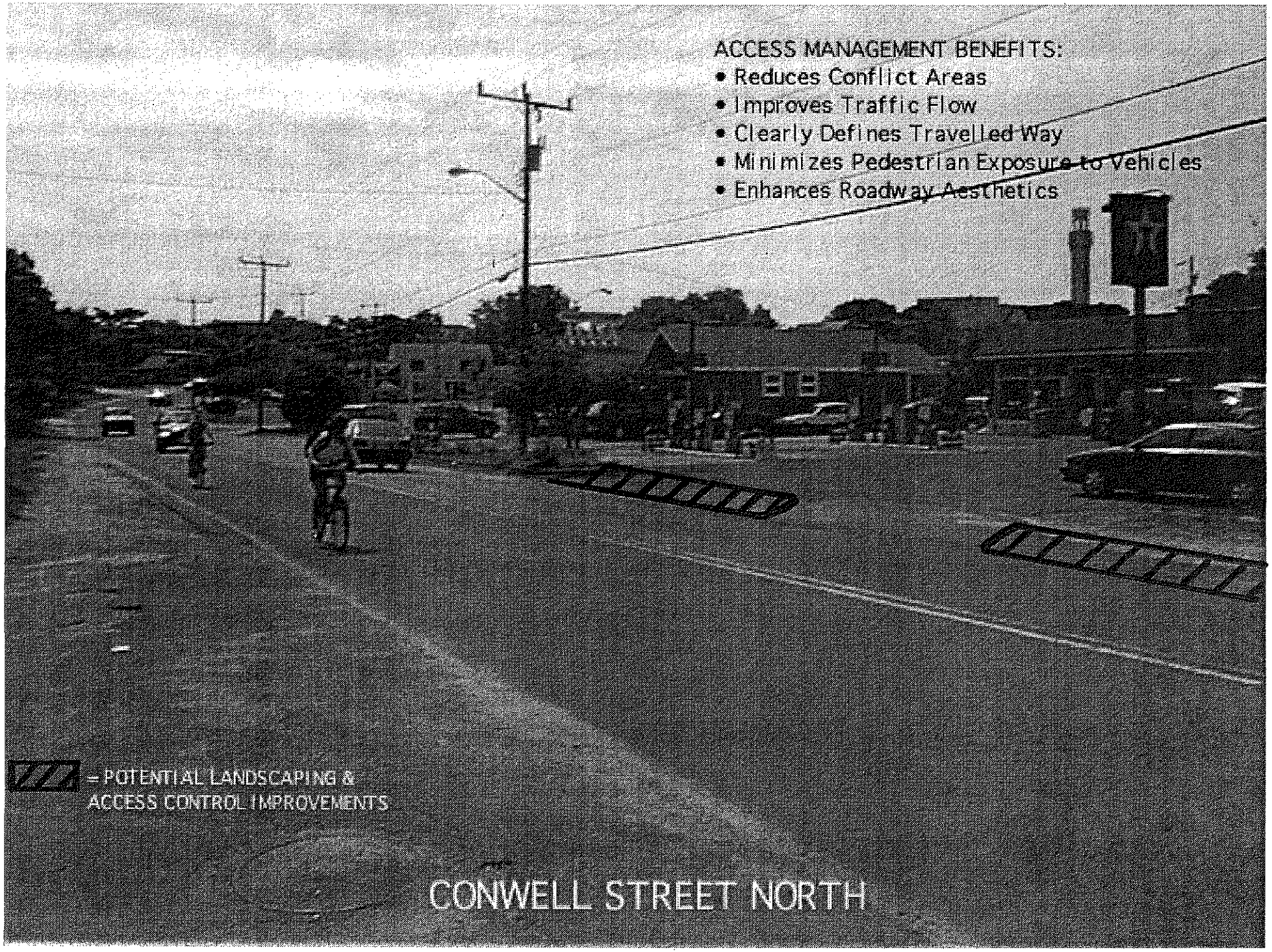
The above short and long term staff recommendations should not diminish the value of other options presented in this report. They are merely recommendations staff considers to be the most beneficial and cost effective for the study location. Other options may be deemed more beneficial or appropriate based on the Town's needs. Illustrations and photographs of several improvement options are shown in Appendix A and B of this report. Staff is available to assist in the implementation, evaluation and identification of potential funding sources for any improvement options the Town would like to advance.

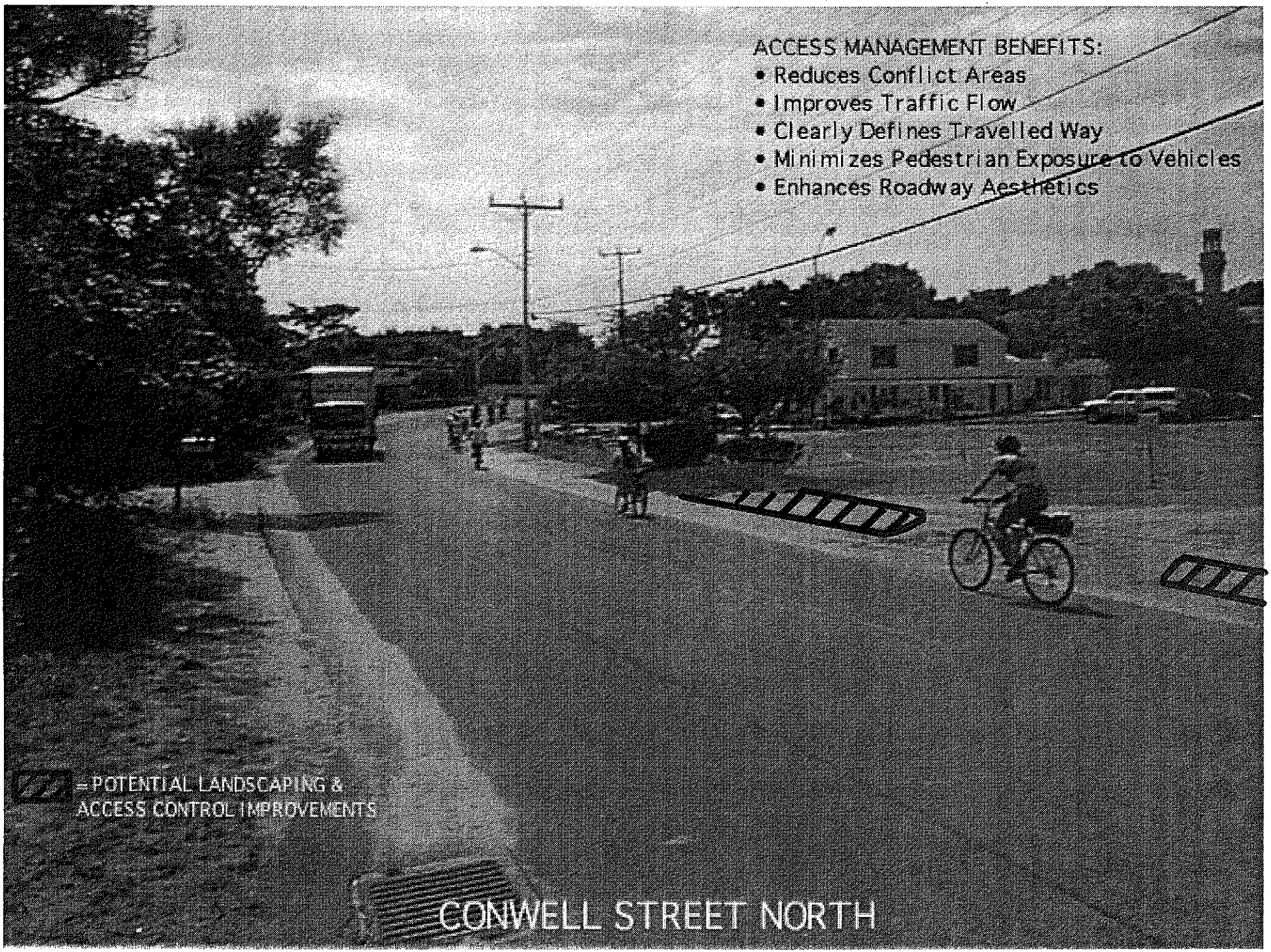
APPENDICES

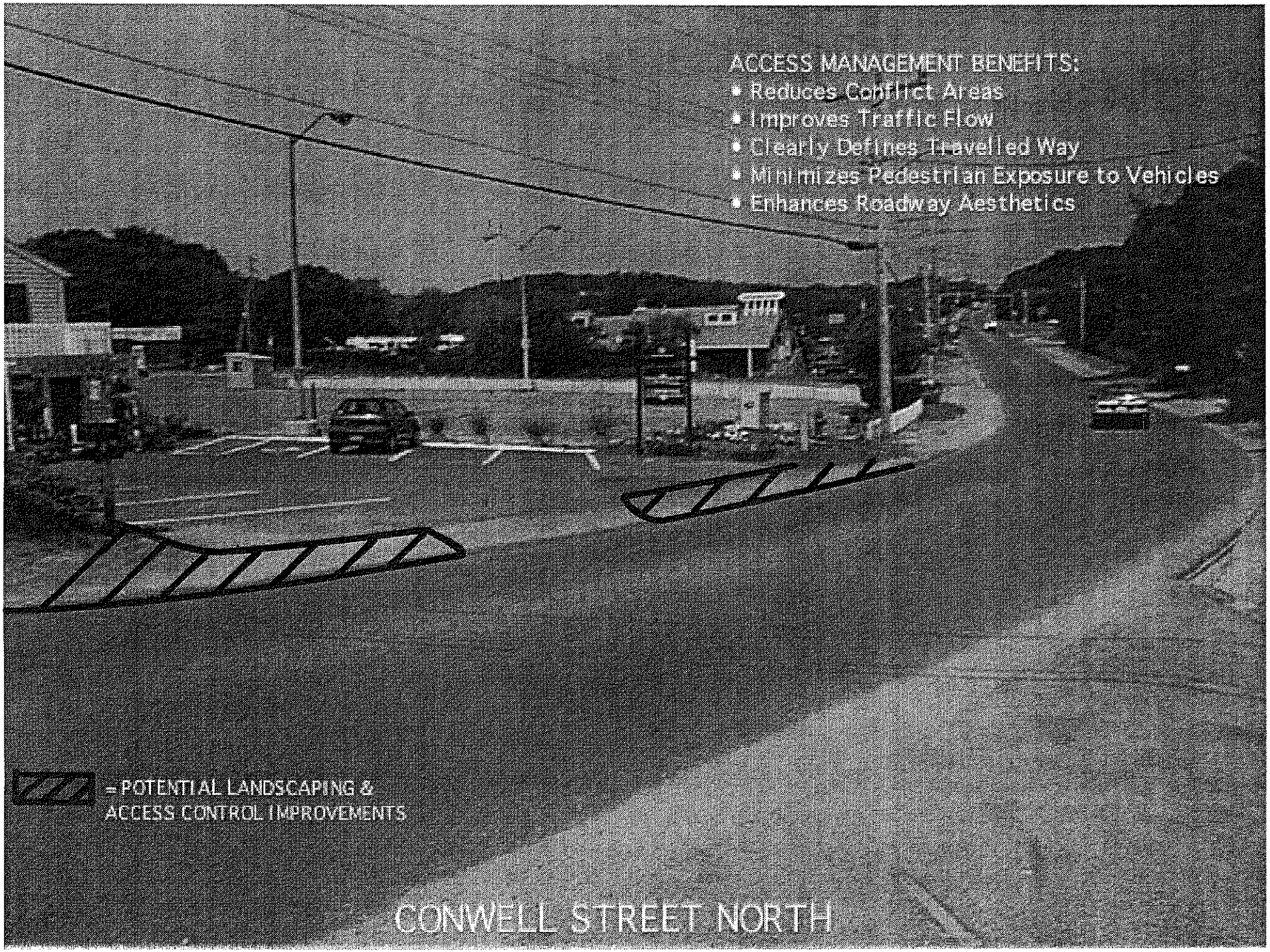
APPENDIX A: CONCEPTUAL IMPROVEMENT OPTIONS

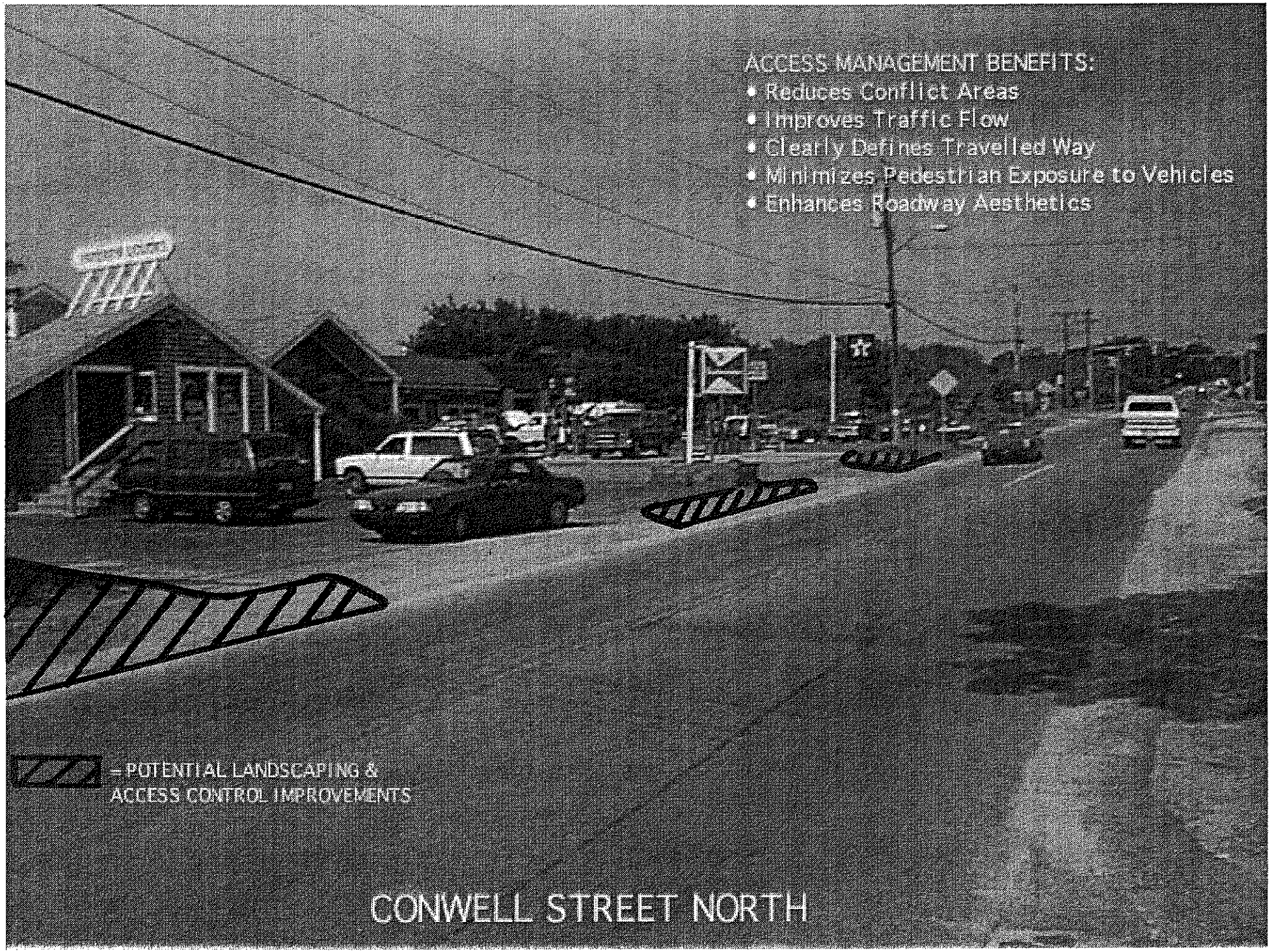
Appendix A1: Access Management
Appendix A2: Conwell Street/Cemetery Road Roundabout
Appendix A3: Route 6 Pedestrian Button Sign
Appendix A4: Intersection Crosswalks/Pavement Markings
Appendix A5: Potential Rerouting of Pedestrians

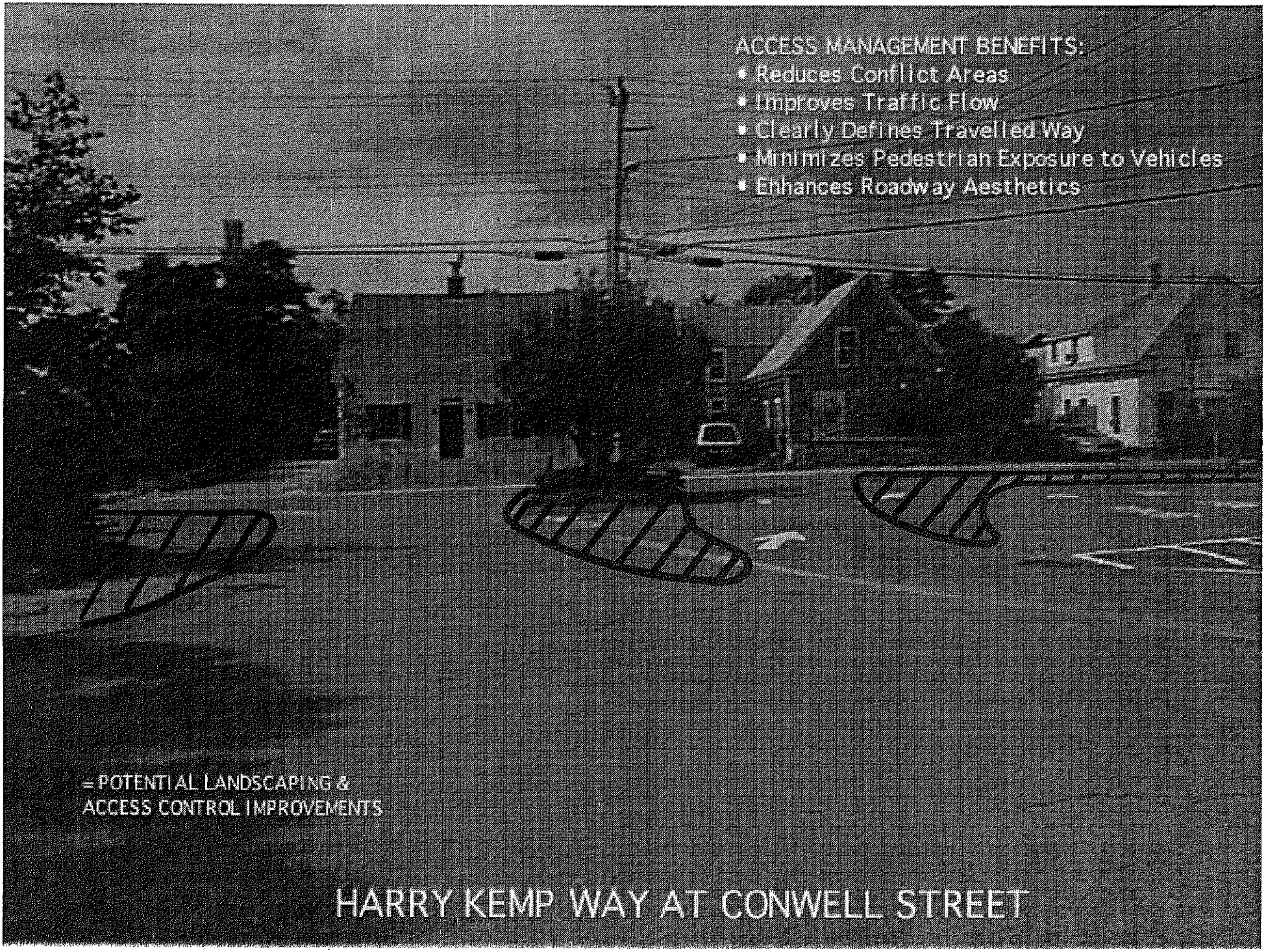
Appendix A1: Access Management


ACCESS MANAGEMENT BENEFITS:
• Reduces Conflict Areas
• Improves Traffic Flow
• Clearly Defines Travelled Way
• Minimizes Pedestrian Exposure to Vehicles
• Enhances Roadway Aesthetics
= POTENTIAL LANDSCAPING & ACCESS CONTROL IMPROVEMENTS
CONWELL STREET NORTH

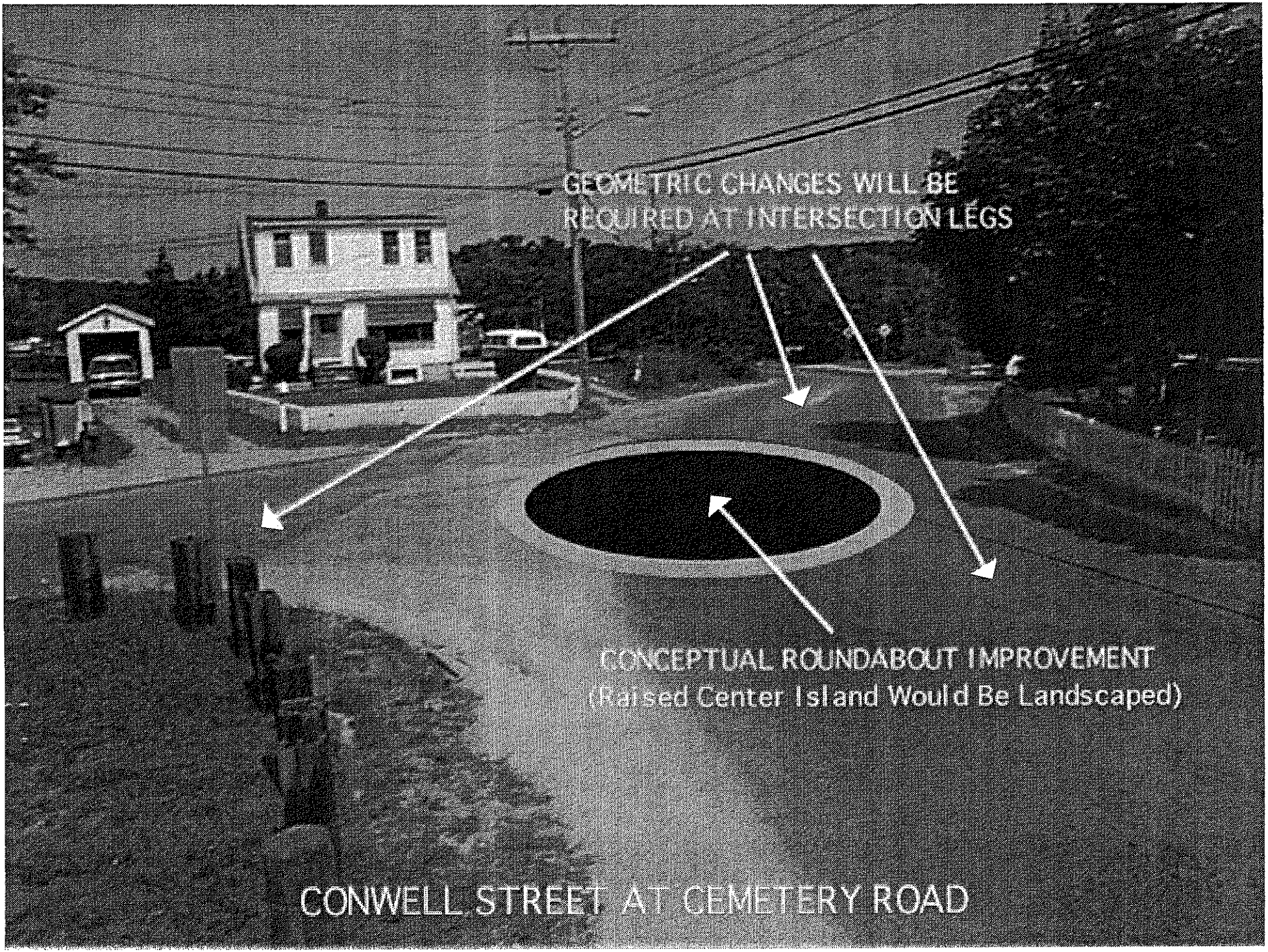

ACCESS MANAGEMENT BENEFITS:
• Reduces Conflict Areas
• Improves Traffic Flow
• Clearly Defines Travelled Way
• Minimizes Pedestrian Exposure to Vehicles
• Enhances Roadway Aesthetics
= POTENTIAL LANDSCAPING & ACCESS CONTROL IMPROVEMENTS
CONWELL STREET NORTH


ACCESS MANAGEMENT BENEFITS:
• Reduces Conflict Areas
• Improves Traffic Flow
• Clearly Defines Travelled Way
• Minimizes Pedestrian Exposure to Vehicles
• Enhances Roadway Aesthetics
= POTENTIAL LANDSCAPING & ACCESS CONTROL IMPROVEMENTS
CONWELL STREET NORTH

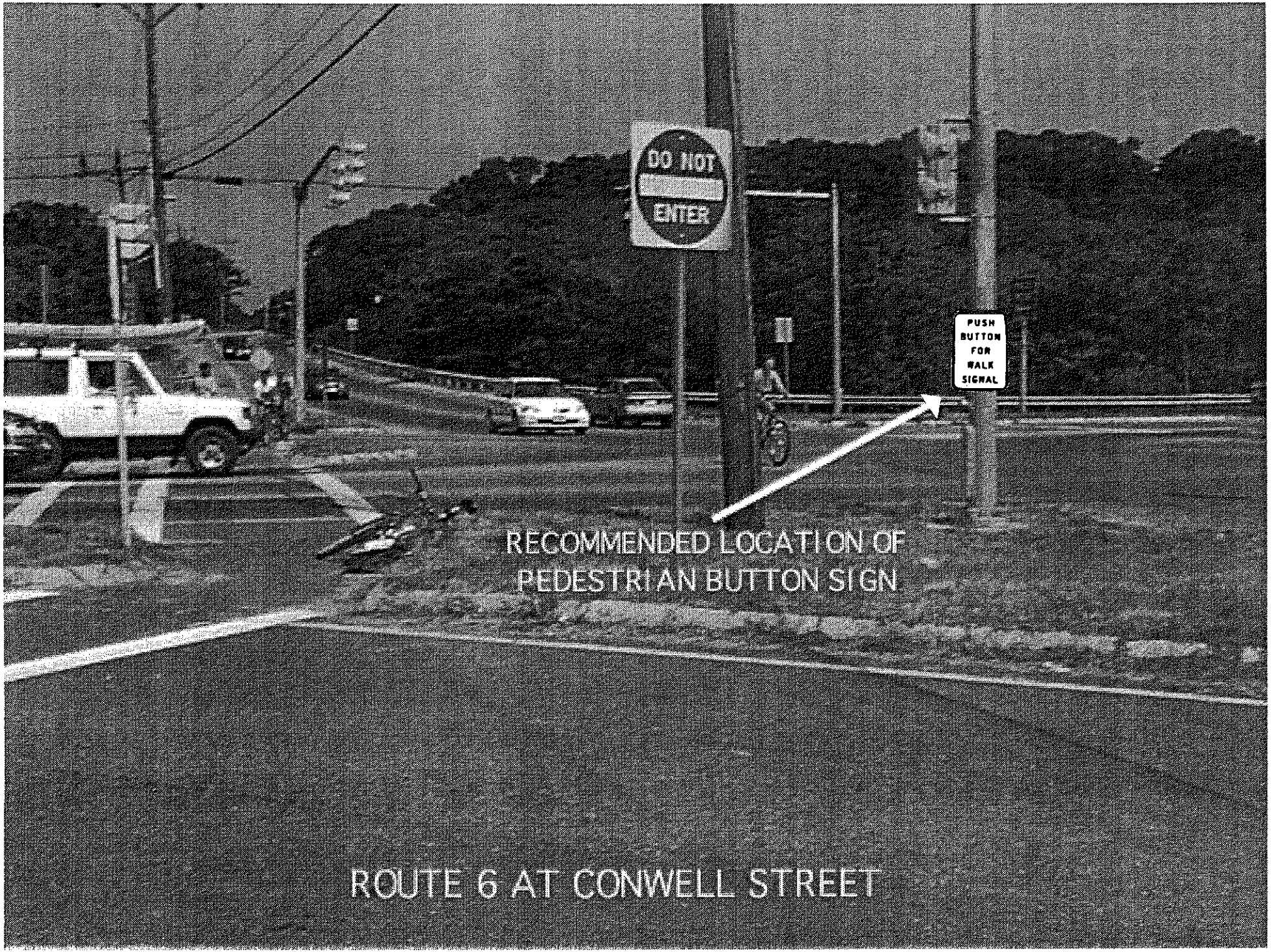

ACCESS MANAGEMENT BENEFITS:
• Reduces Conflict Areas
• Improves Traffic Flow
• Clearly Defines Travelled Way
• Minimizes Pedestrian Exposure to Vehicles
• Enhances Roadway Aesthetics
= POTENTIAL LANDSCAPING & ACCESS CONTROL IMPROVEMENTS
CONWELL STREET NORTH


ACCESS MANAGEMENT BENEFITS:
• Reduces Conflict Areas
• Improves Traffic Flow
• Clearly Defines Travelled Way
• Minimizes Pedestrian Exposure to Vehicles
• Enhances Roadway Aesthetics
= POTENTIAL LANDSCAPING &
ACCESS CONTROL IMPROVEMENTS
HARRY KEMP WAY AT CONWELL STREET

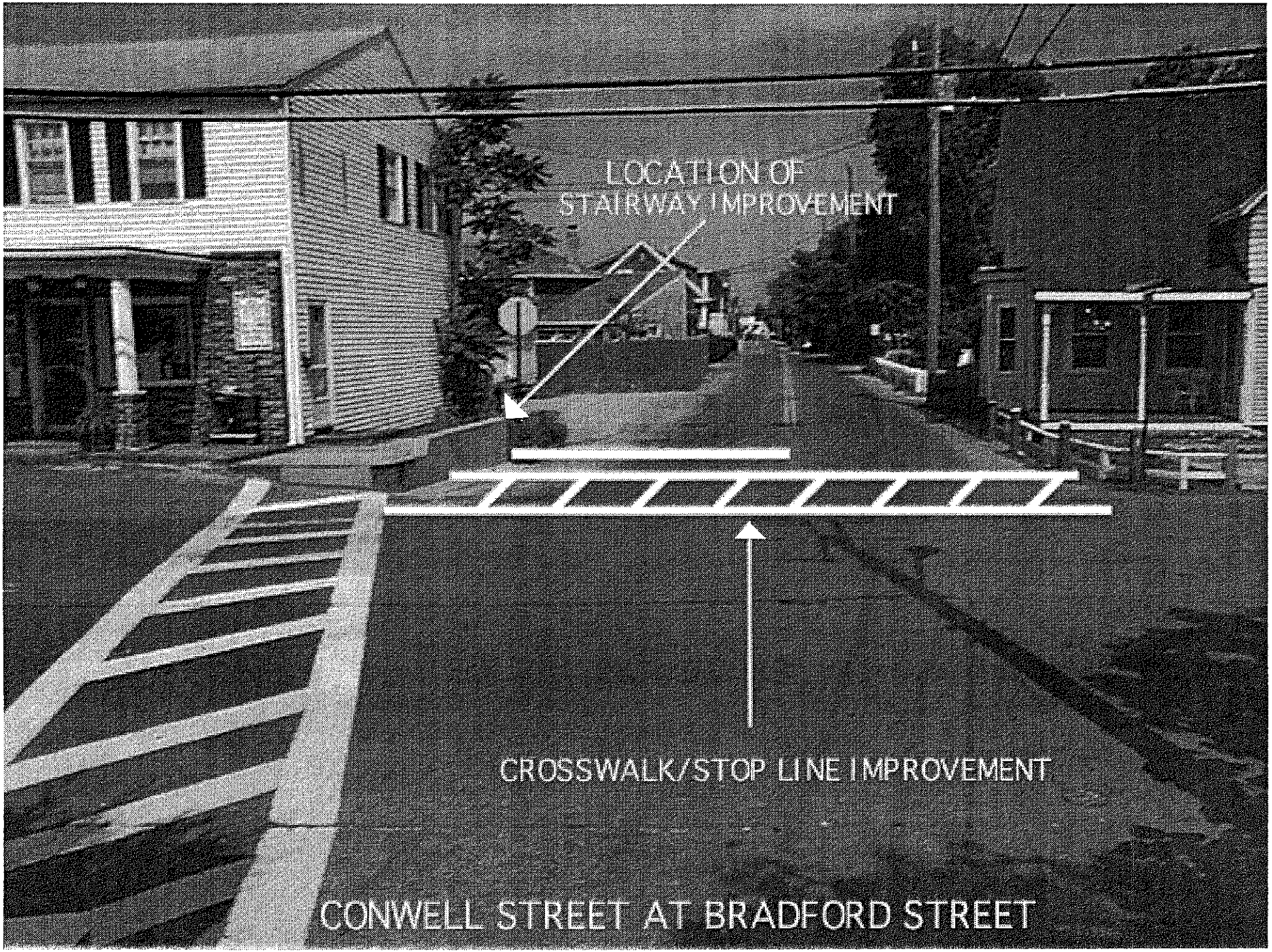
Appendix A2: Conwell Street/Cemetery Road Roundabout

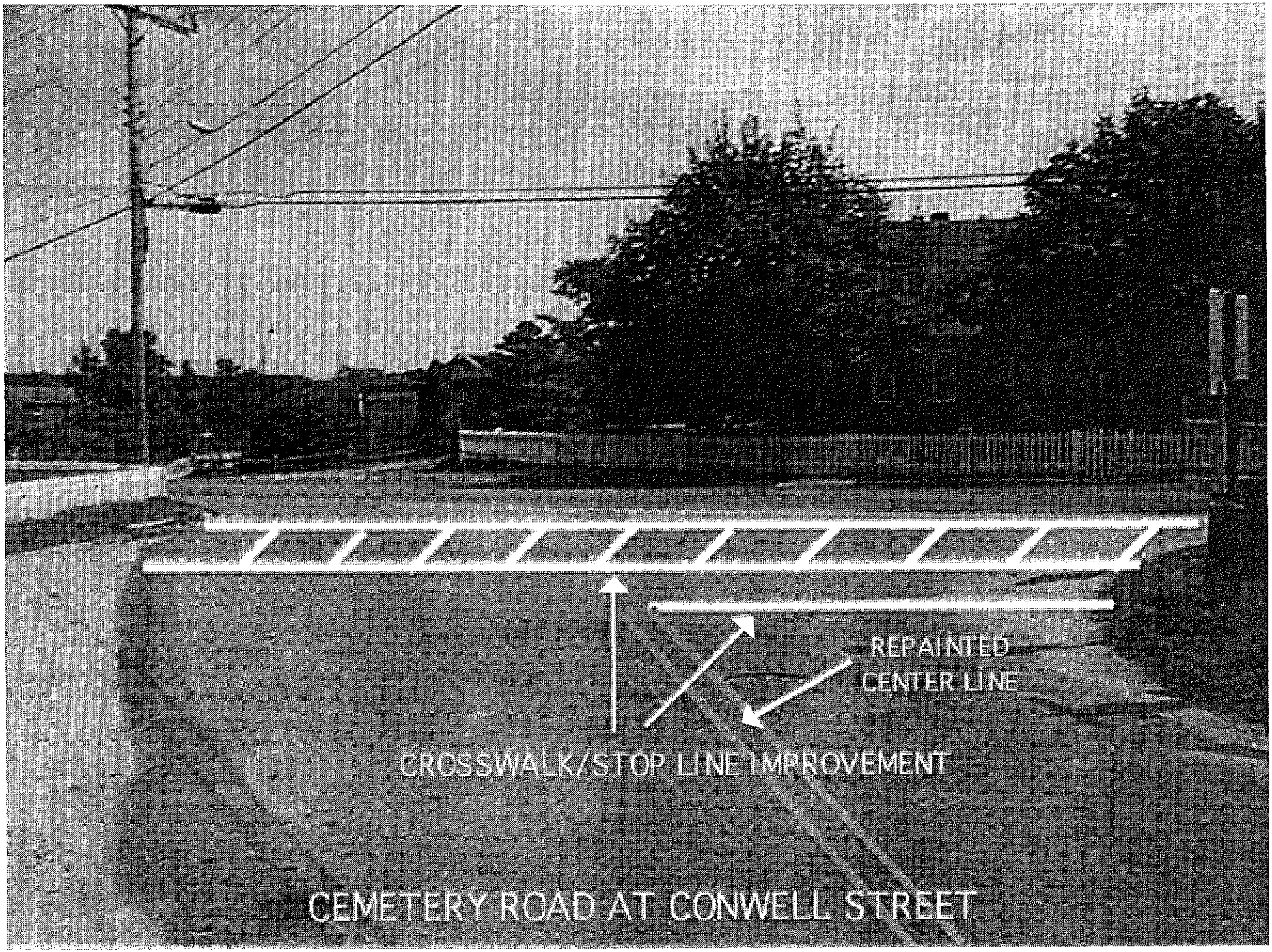

GEOMETRIC CHANGES WILL BE
REQUIRED AT INTERSECTION LEGS
CONCEPTUAL ROUNDABOUT IMPROVEMENT
(Raised Center Island Would Be Landscaped)
CONWELL STREET AT CEMETERY ROAD

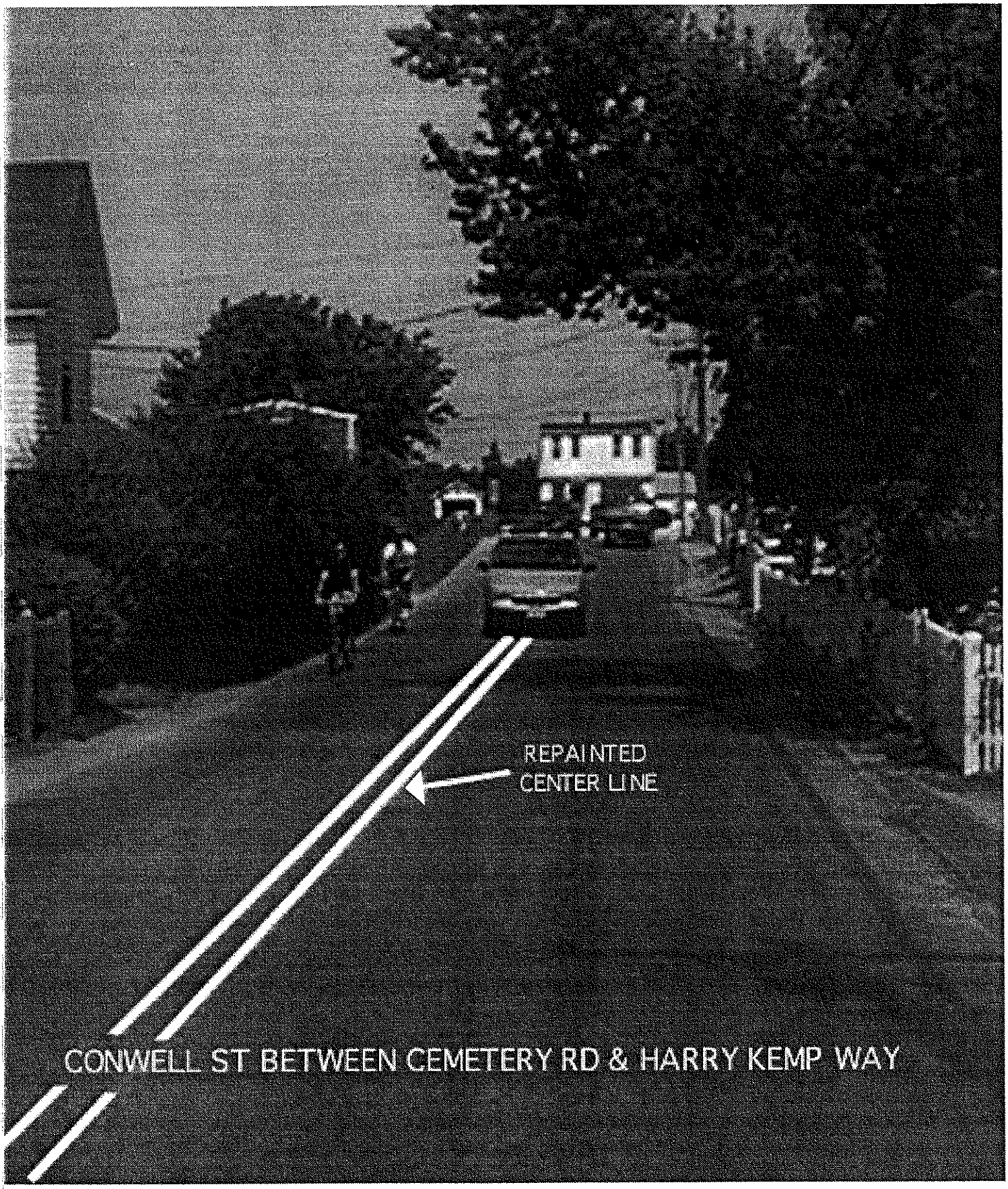
Appendix A3: Route 6 Pedestrian Button Sign


DO NOT
ENTER
PUSH BUTTON FOR WALK SIGNAL
RECOMMENDED LOCATION OF PEDESTRIAN BUTTON SIGN
ROUTE 6 AT CONWELL STREET

Appendix A4: Intersection Crosswalks/Pavement Markings

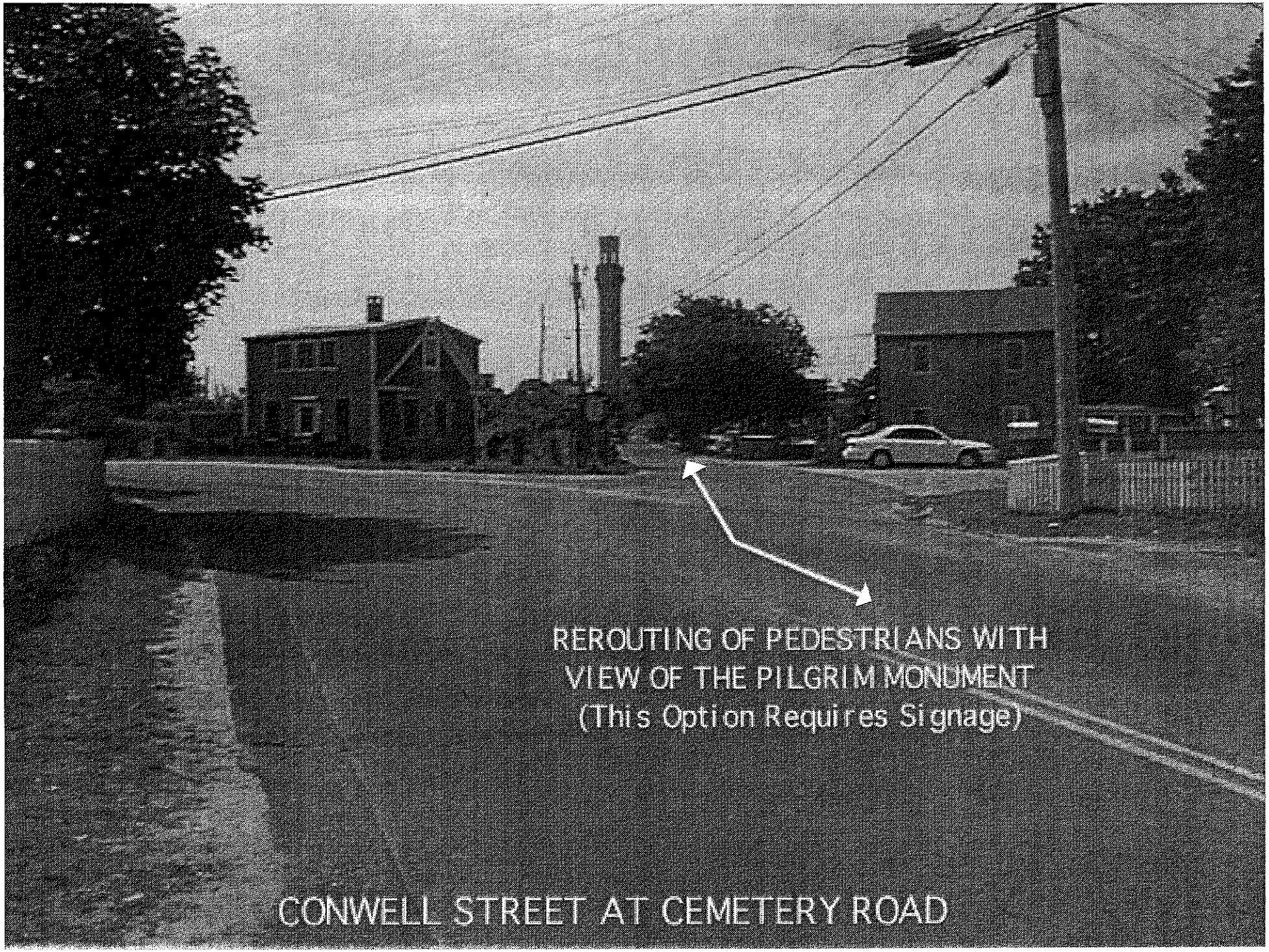

LOCATION OF
STAIRWAY IMPROVEMENT
CROSSWALK/STOP LINE IMPROVEMENT
CONWELL STREET AT BRADFORD STREET

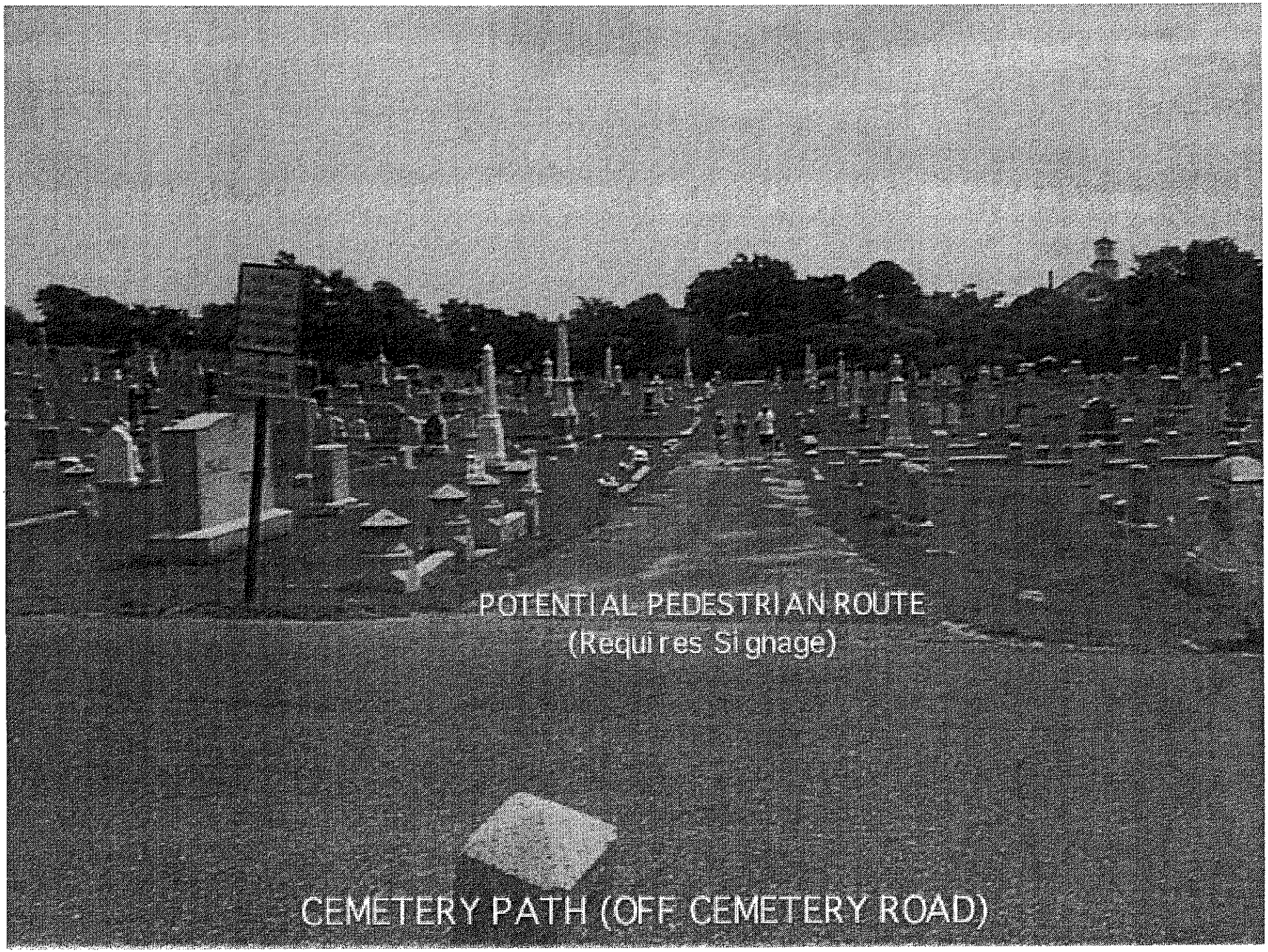

REPAINTED
CENTER LINE
CROSSWALK/STOP LINE IMPROVEMENT
CEMETERY ROAD AT CONWELL STREET

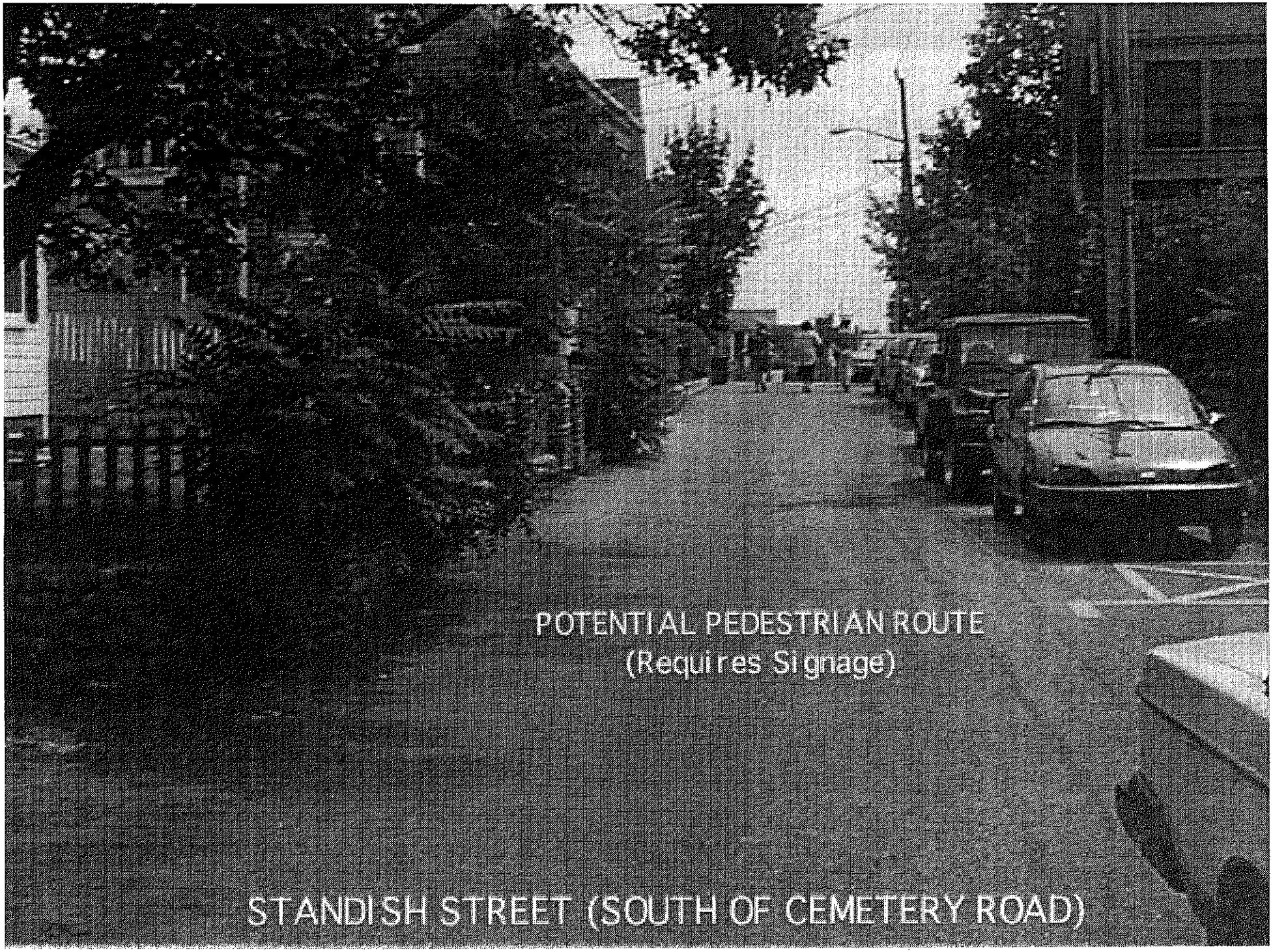

REPAINTED
CENTER LINE
CONWELL ST BETWEEN CEMETERY RD & HARRY KEMP WAY

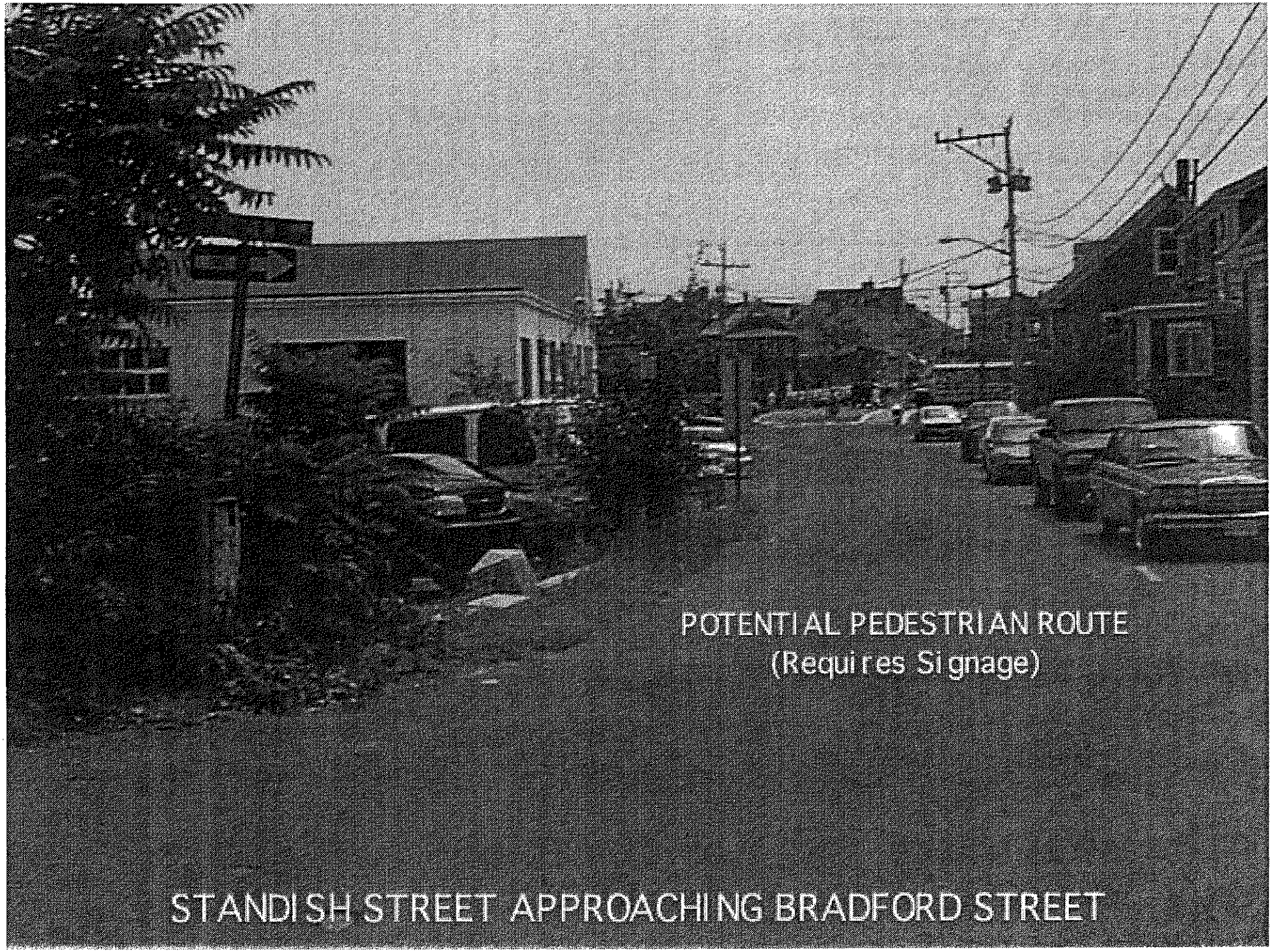
Appendix A5: Potential Rerouting of Pedestrians


REROUTE PEDESTRIANS
Conwell St
Harry Kemp Way
Old Colony Way
Brewster St
Pearl St
Brewster St
Priscilla Alden RD
Tinys Way
Fishburn Ct
Conwell St
Cemetery Rd
ALTERNATE ROUTE 1
ALTERNATE ROUTE 2
ALTERNATE ROUTE 3
Wareham St
Standish Av
Standish St
Alden St
Railroad Av
Baker Av
Pearl St
Law St
Arch St
Johnson St
Center St
Rte 6A - Bradford St
Commercial St
Freeman St
High Pole Hill Rd

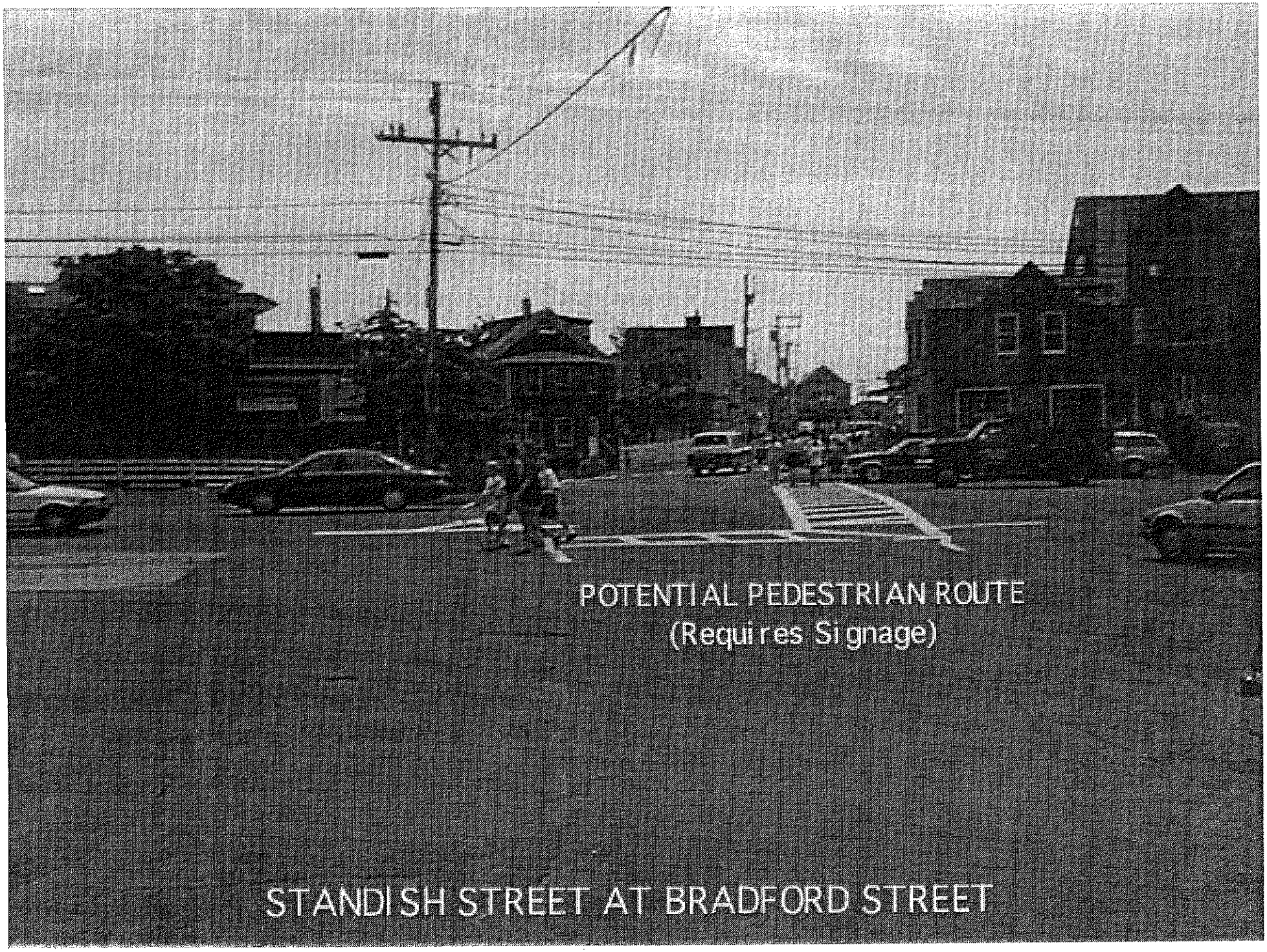

REROUTING OF PEDESTRIANS WITH
VIEW OF THE PILGRIM MONUMENT
(This Option Requires Signage)
CONWELL STREET AT CEMETERY ROAD


POTENTIAL PEDESTRIAN ROUTE
(Requires Signage)
CEMETERY PATH (OFF CEMETERY ROAD)


POTENTIAL PEDESTRIAN ROUTE
(Requires Signage)
STANDISH STREET (SOUTH OF CEMETERY ROAD)



STANDISH STREET APPROACHING BRADFORD STREET


POTENTIAL PEDESTRIAN ROUTE
(Requires Signage)
STANDISH STREET AT BRADFORD STREET

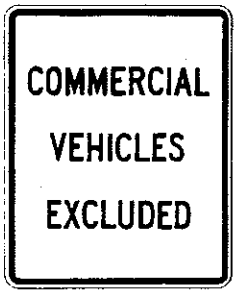
APPENDIX B: EXAMPLES OF IMPROVEMENT OPTIONS

Appendix B1: Signage
Appendix B2: Traffic Calming

Appendix B1: Signage

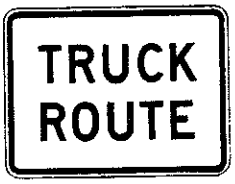
R13-1
72" × 48"

R5-2
24" x 24"

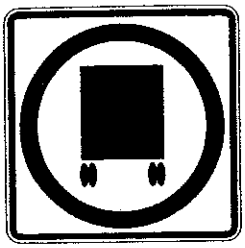


R5-4
24" x 30"

R5-3
24" × 24"



R14-1
24" × 18"

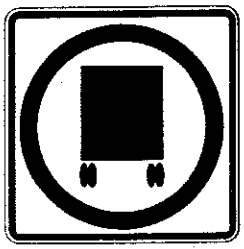


R14-4
24" × 24"

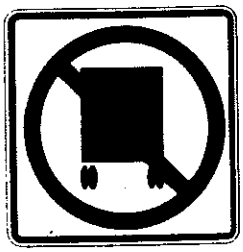
R14-1
24" × 18"

R14-2
24" × 24"

R14-3
24" × 24"



R14-4
24" × 24"



R14-5
24" × 24"

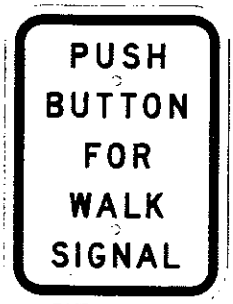
TRUCK SIGNS

R9–1
18" x 24"

R9–2
12" x 18"

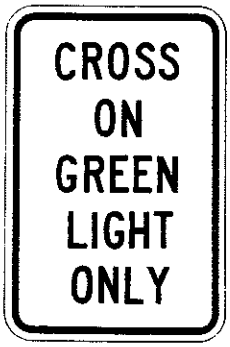
R9–3a
18"×18"

R9–3b
18"×12"

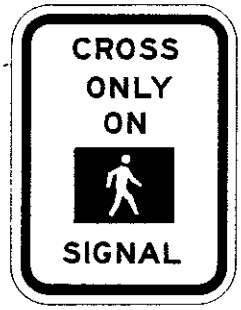


R10–4
9" x 12"

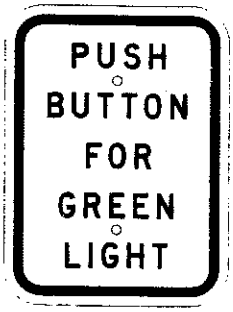
R10–4b
9" x 12"
II–55 (c)
Rev. 4



R10–1
12" x 18"



R10–2a
9" x 12"
II–56 (c)
Rev. 5



R10–3
9" x 12"

R5–10c
24"×12"

R9–3a
18"×18"

W11A–2
30"×30"

R5–10a
30"×36"

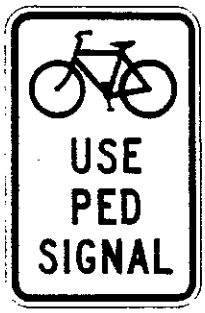
R5–10b
30"×18"

PEDESTRIAN SIGNS

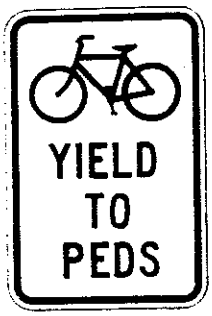
R5-6
24" × 24"

R7-9a
12" × 18"

R7-9
12" × 18"



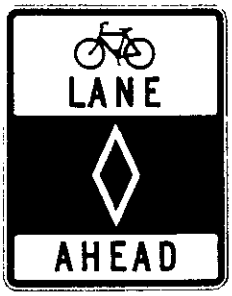
R9-5
12" × 18"



R9-6
12" × 18"

R9-7
12" × 18"

W11-1
30" x 30"



R3-16
24" × 30"

R3-17
24" × 30"

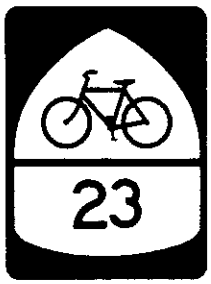
W8-10

Roadway Signs
30" × 30"
24" × 18"

Bicycle Trail Signs
18" × 18"
12" × 9"

D11-1
24" x 18"

M1-8
12" x 18"



M1-9
18" x 24"

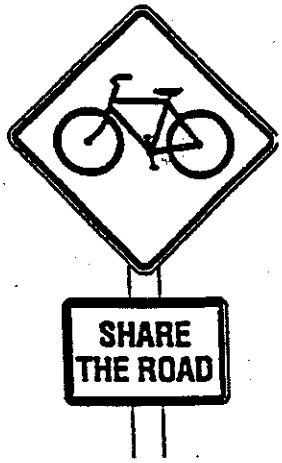
BICYCLE SIGNS

BICYCLE ROUTE AND SHARE THE ROAD SIGNING

D11-1
with
"SHARE THE
ROAD"

Bicycle Route with
Share the Road Signing

BIKE ROUTE sign shall be green, with white text. SHARE THE ROAD sign shall be white, with green text.



W11-1
with
W1-16

Share the Road
Signing Only

Signs shall be yellow, with black symbols and text.

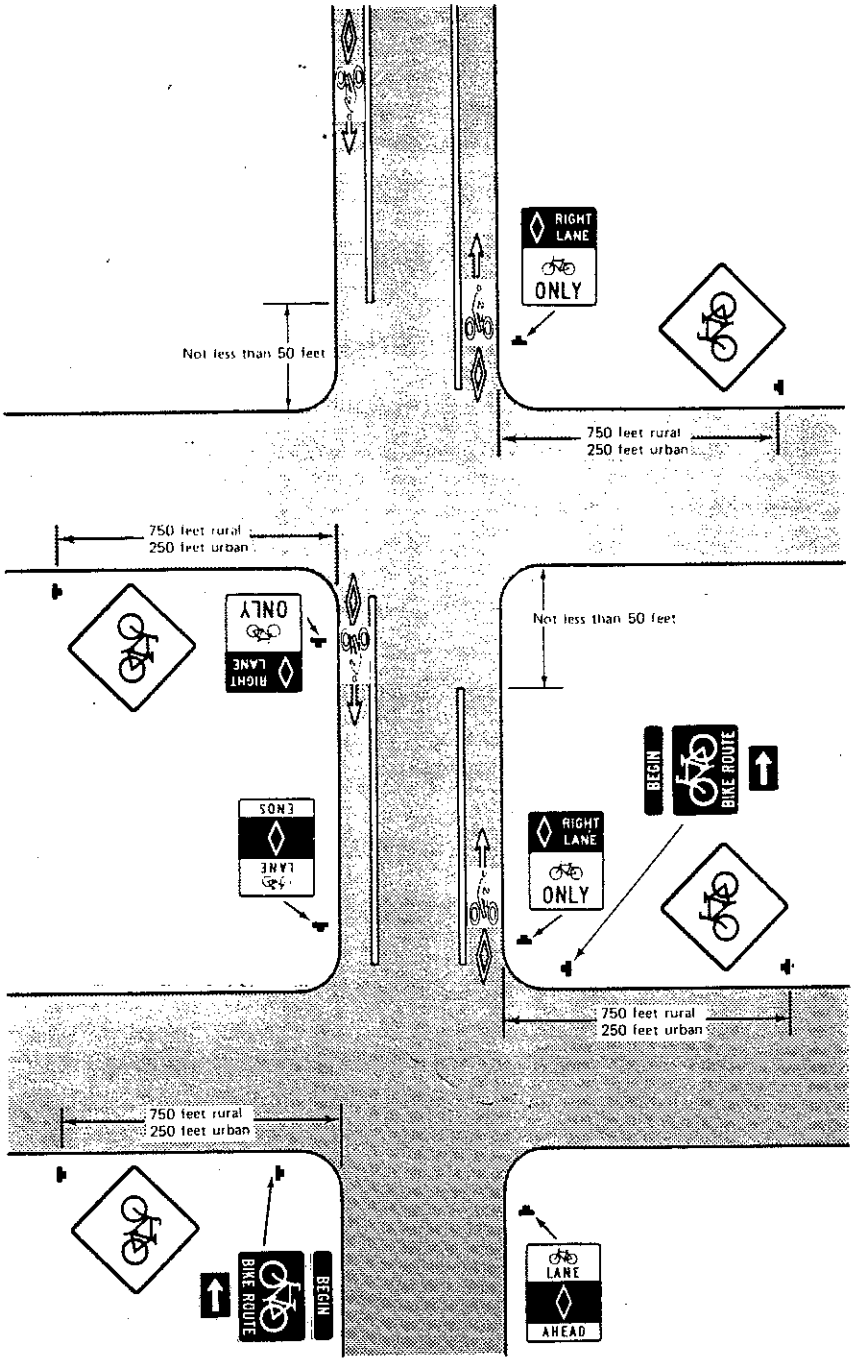


Figure 9-3. Typical signing for beginning and ending of designated bicycle lane.

BICYCLE SIGNS

Appendix B2: Traffic Calming

TRAFFIC CALMING TECHNIQUES

1. Intersection Diverters—These applications include partial diverters used to create right-in right-out only traffic movements at a 'T' intersection and full diagonal diverters used to alter network flow patterns by bisecting a four-way intersection. Implementation involves construction of raised curbs, traffic islands, physical barricades and other visual components.

2. Roundabouts—Traffic circles, roundabouts and mini-roundabouts are used to create circular flow patterns operating under yield rather than stop control conditions. The radius of the roundabout and physical means of constructing the island are the most significant design and operational issues.

3. Channelization—Commonly used features include pedestrian refuge treatments, mid-block median islands and other more traditional forms of intersection traffic control islands. These applications are used to horizontally alter motor vehicle paths of travel and to divert traffic within the roadway network by restricting certain intersection turning movements (Figure 1).

Figure 1. Channelization used for intersection restriction.

4. Speed Humps—Carefully profiled humps creating vertical constraints on speed are designed based on desired motor vehicle speed. These features are commonly placed at intervals along the street or roadway ranging from 80 m to 130 m.

5. Speed Tables—Vertically applied speed constraint applications, similar to speed humps, are constructed with a table or flat portion which typically doubles as a pedestrian crosswalk (Figure 2). The result creates a roadway environment where other modes of travel (e.g., walking) are given priority. These applications can also be applied at intersection locations (Figure 3). However, bollards or other raised features must be used to channelize motor vehicle movements in the absence of a physical curb line along radius returns (Figure 4).

6. Street Narrowing—Also referred to as slow points and chokers, these applications are created by curb modifications, channelization and often landscaping features to narrow the roadway to a minimum width. Shy distance and side friction from these features creates a speed reduction. These applications are also used at intersections.

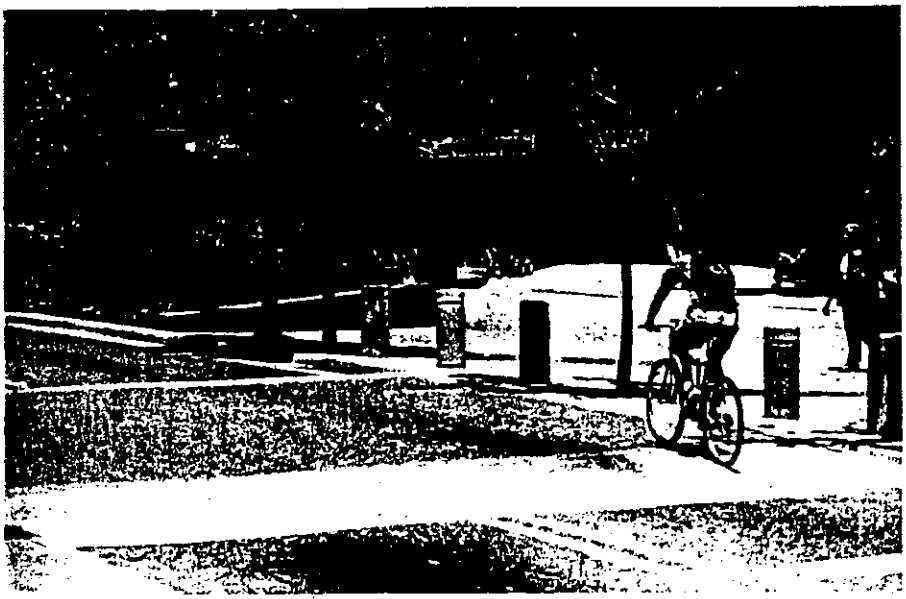


Figure 2. Speed Table used as pedestrian crosswalk.

7. Angle Points/Chicanes—Constructed along the edge of travel way similar to street narrowing features, these modifications create a more dramatic horizontal deflection in the path of travel for motor vehicles. With respect to speed reduction, the most effective applications extend laterally out into the initial centerline of the roadway.

8. Driveway Links—This application involves drastically altering the typical section and alignment characteristics of the roadway environment (e.g., from a street to a driveway) while maintaining the connectivity within the surrounding roadway network. Alleyways have served this function in the past but in most cases have been limited to commercial service access.

9. Gateway/Perimeter Treatments—A variety of visual and physical features are used to communicate a message that the motor vehicle driver is entering a special area within the urban roadway network. Signs, intersection narrowings and land landscaping features are used separately or in combination to create this effect.

10. Street Closure—Commonly used in new subdivisions by constructing cul-de-sacs, this highly constrictive measure

impacts network traffic flows by eliminating neighborhood cut-through traffic. These applications are difficult to implement on existing roadways due to right of way constraints, disruption to emergency vehicle operation and problems with establishing a precedence for street closures.

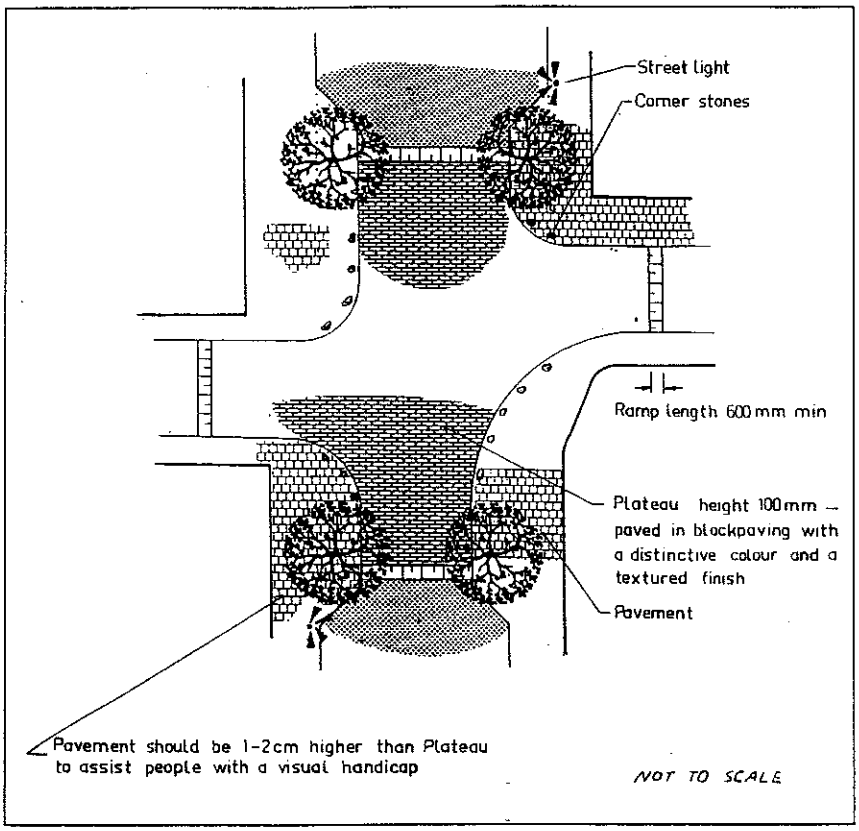
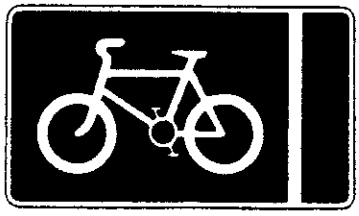
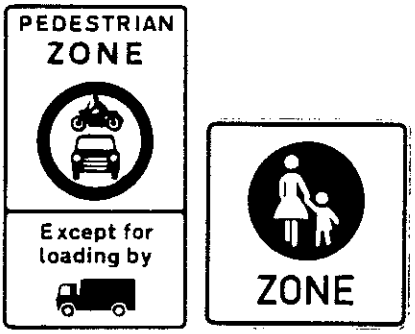


Figure 12. *Detail of paved raised junction.*

2.1.4 Examples of relevant traffic orders



Cycle facility.



Pedestrianized zone.

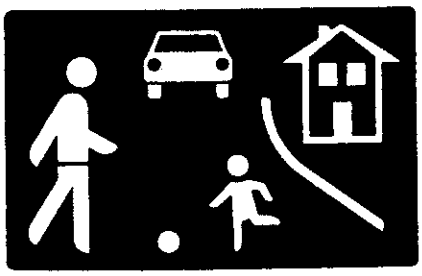
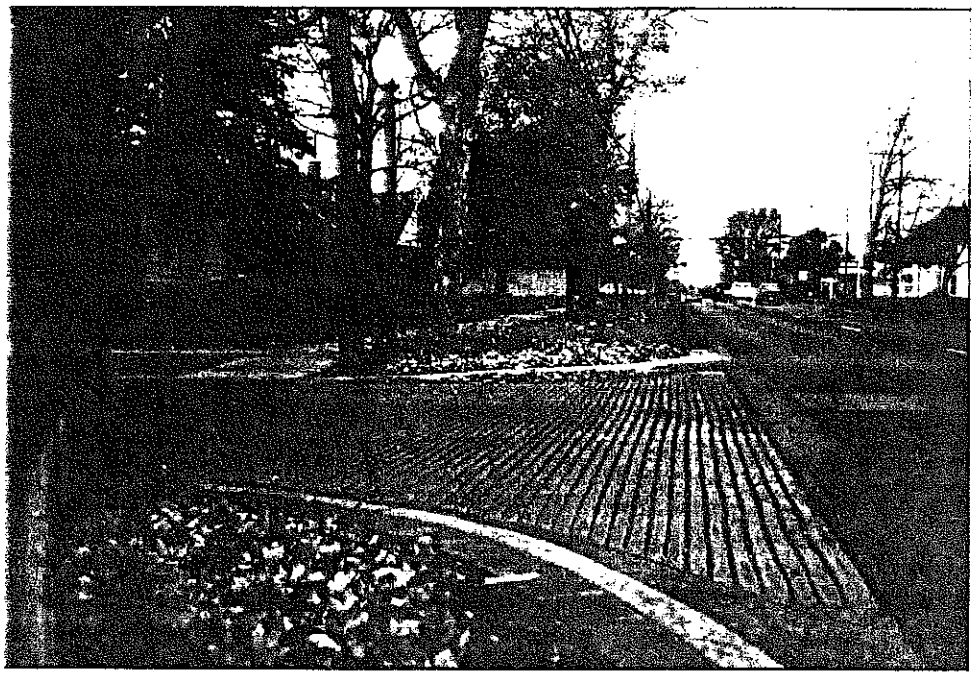
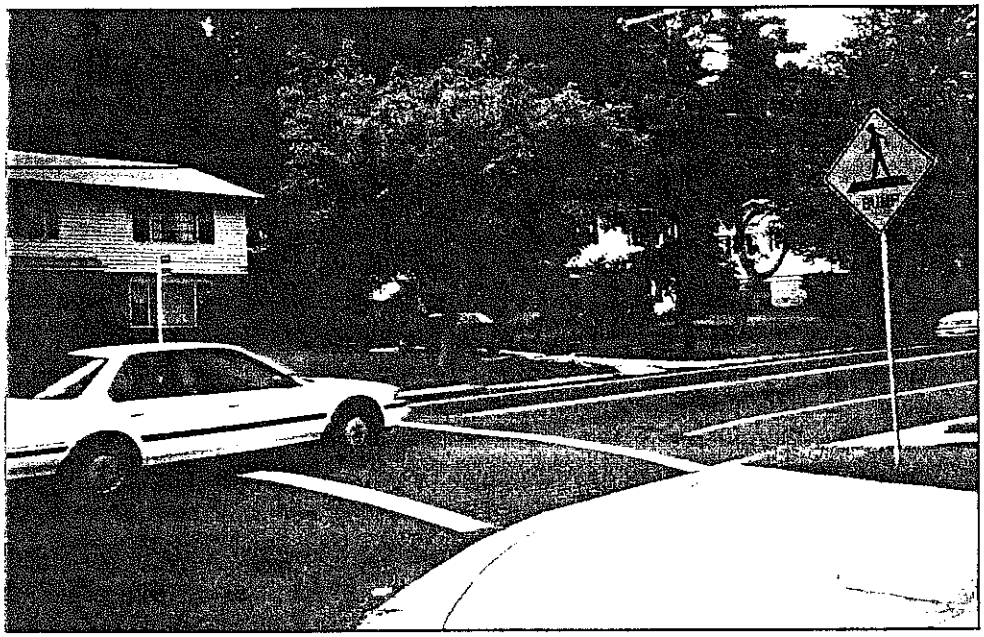


Figure 64. *Traffic calming sign used in many European countries.*



A raised pedestrian crosswalk and narrow corner radius design discourage nonlocal traffic and high speeds in this residential neighborhood. (Carbondale, IL)



A clearly delineated and elevated crosswalk, signage, and appropriate turning radius design contribute to this pedestrian-friendly intersection.

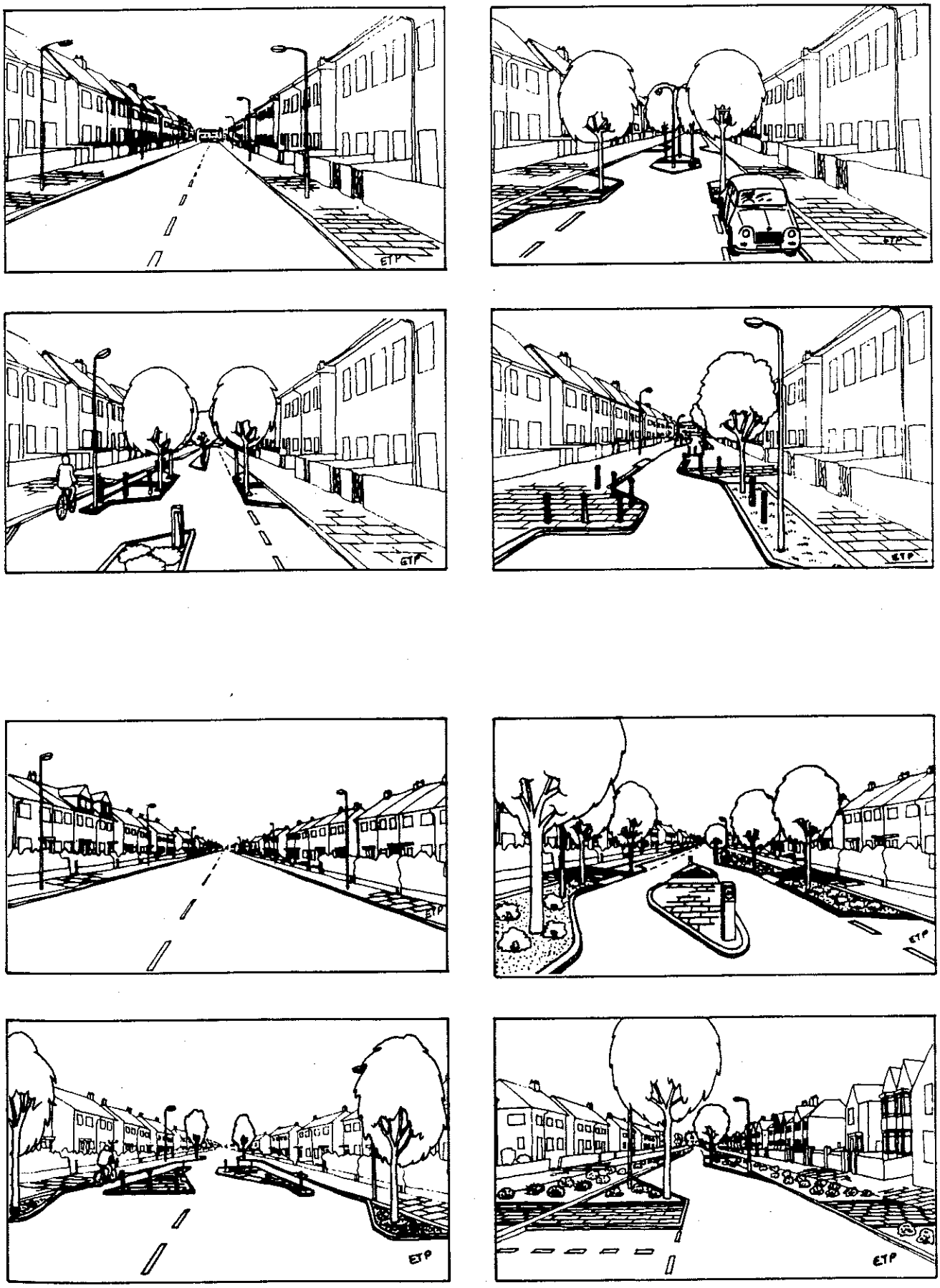
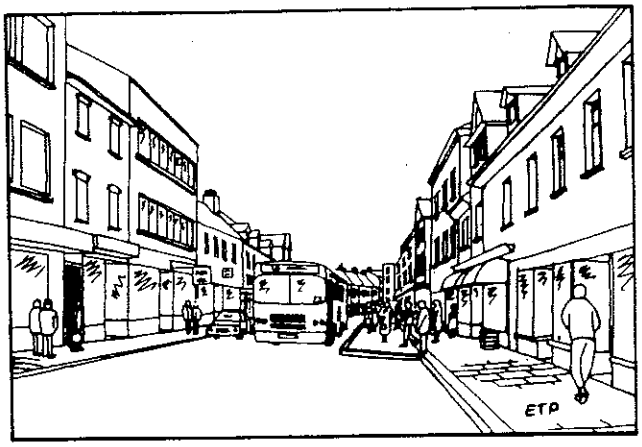
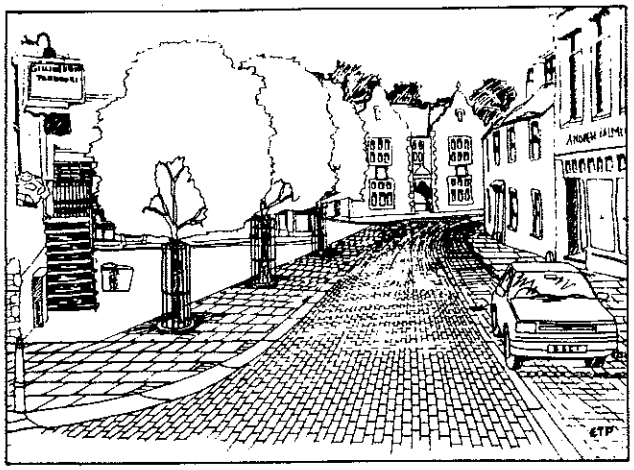


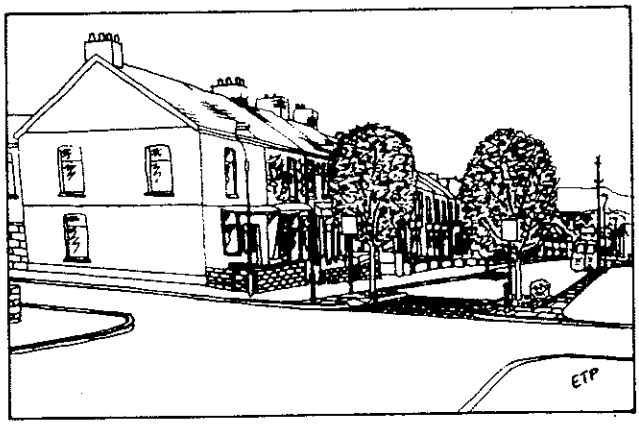
Figure 40. *Examples of chicane design showing two streets with and without chicanes. (Based on C.R.O.W 1988).*

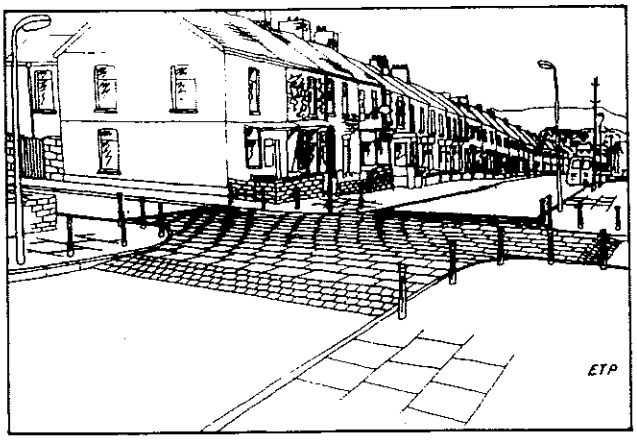




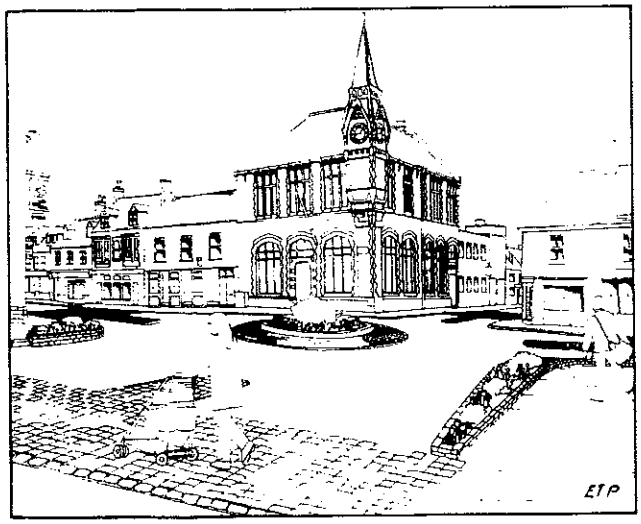
Left: bus berth.
Right: change in road surface material.

2.1.2 Measures that can be used at junctions





Above left: entrance / gateway treatment.
Above right. raised junction.
Below left: roundabout.
Below right. mountable shoulders.



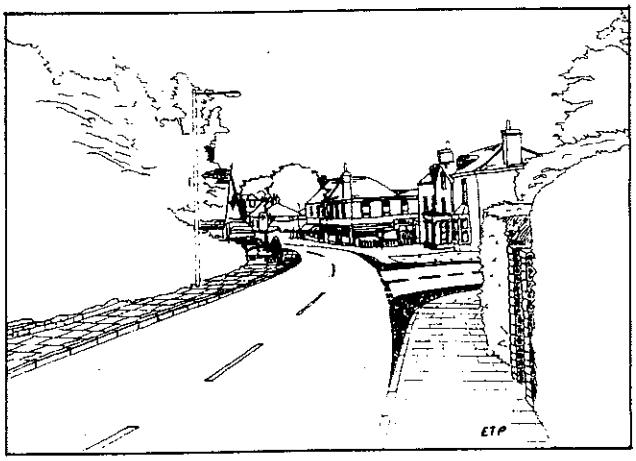


Figure 4. *Blockpaved flat-top road hump.*

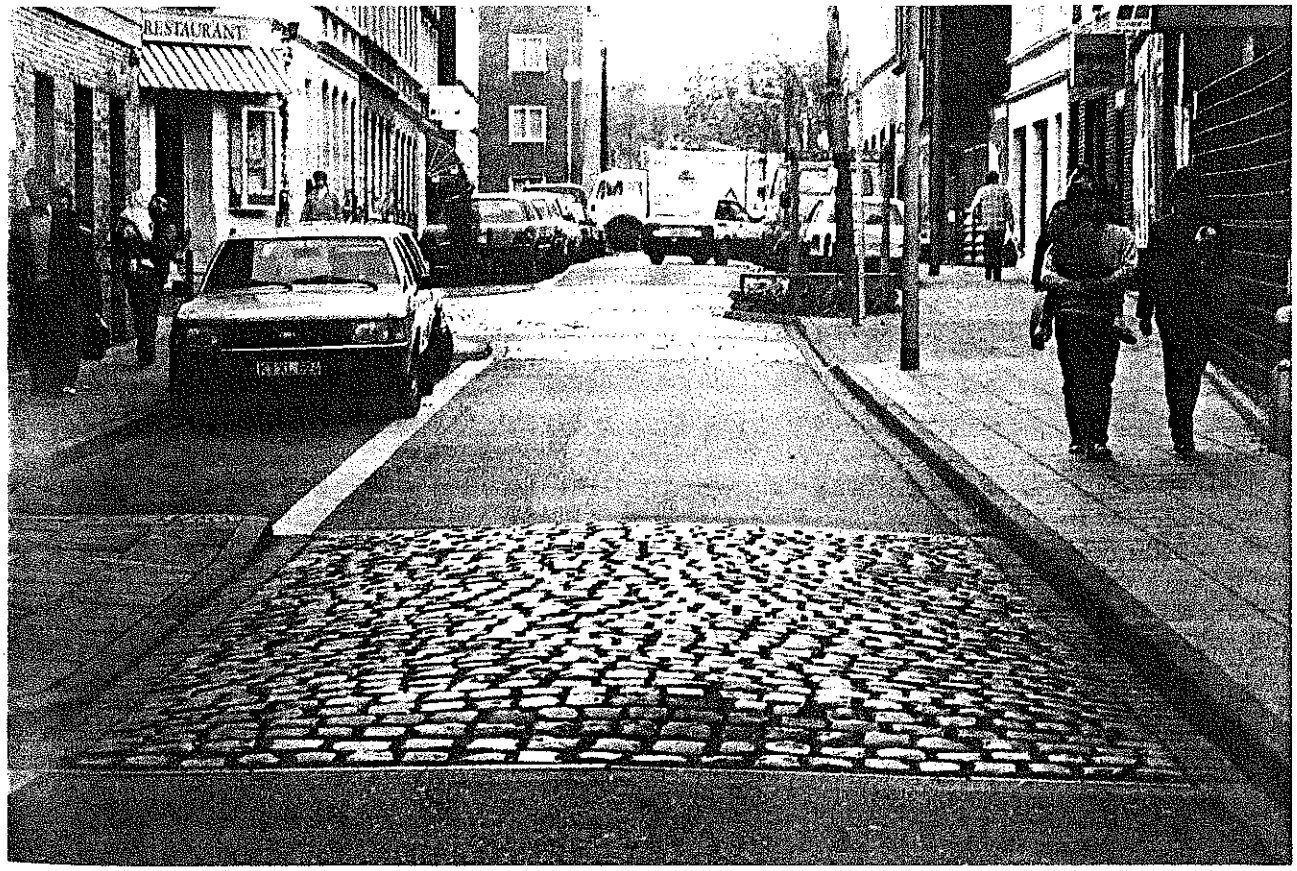


Figure 5. *Road hump extending over the whole carriageway.*

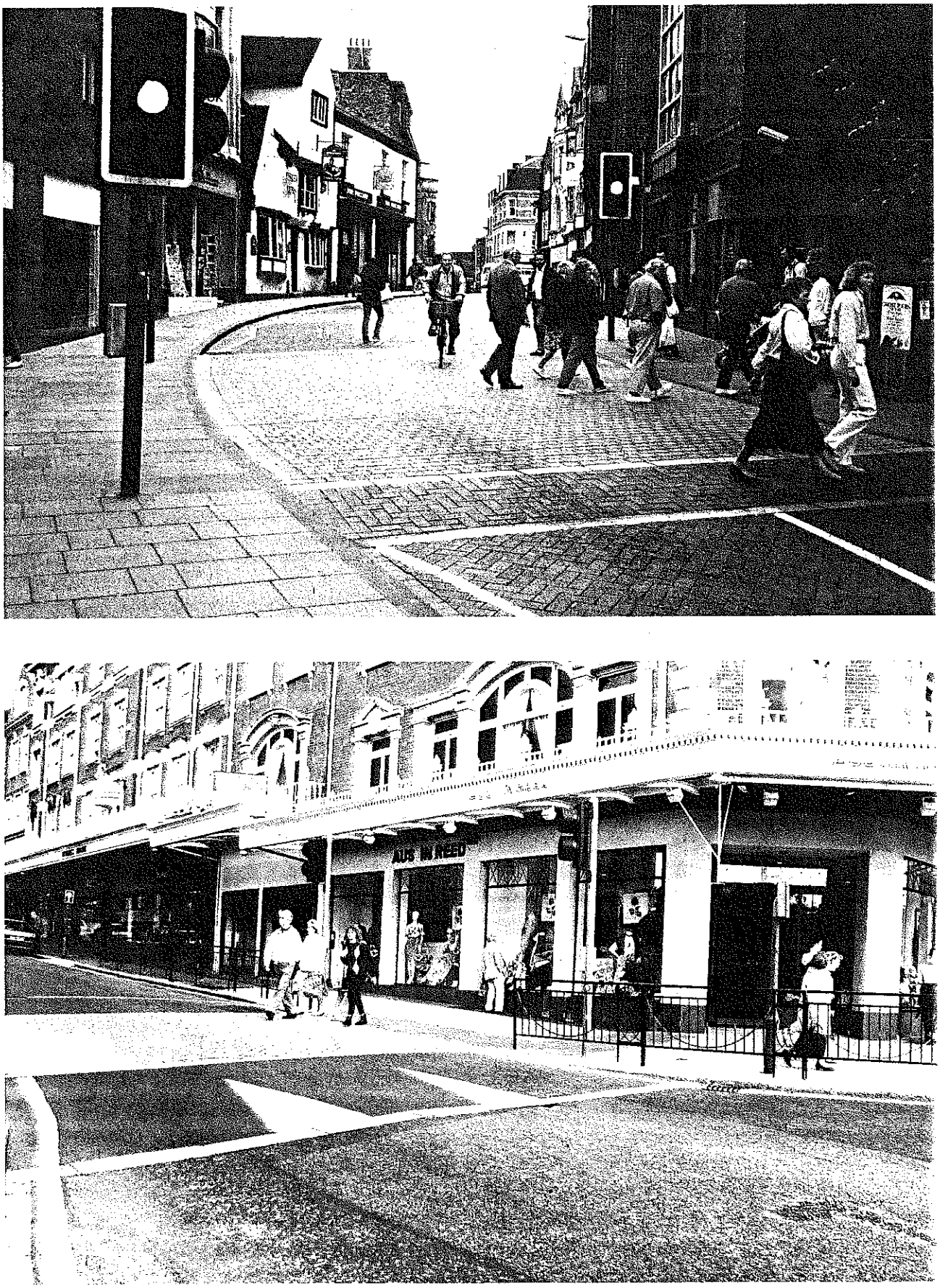


Figure 7. *Paved flat-top road humps used as pedestrian crossings.*

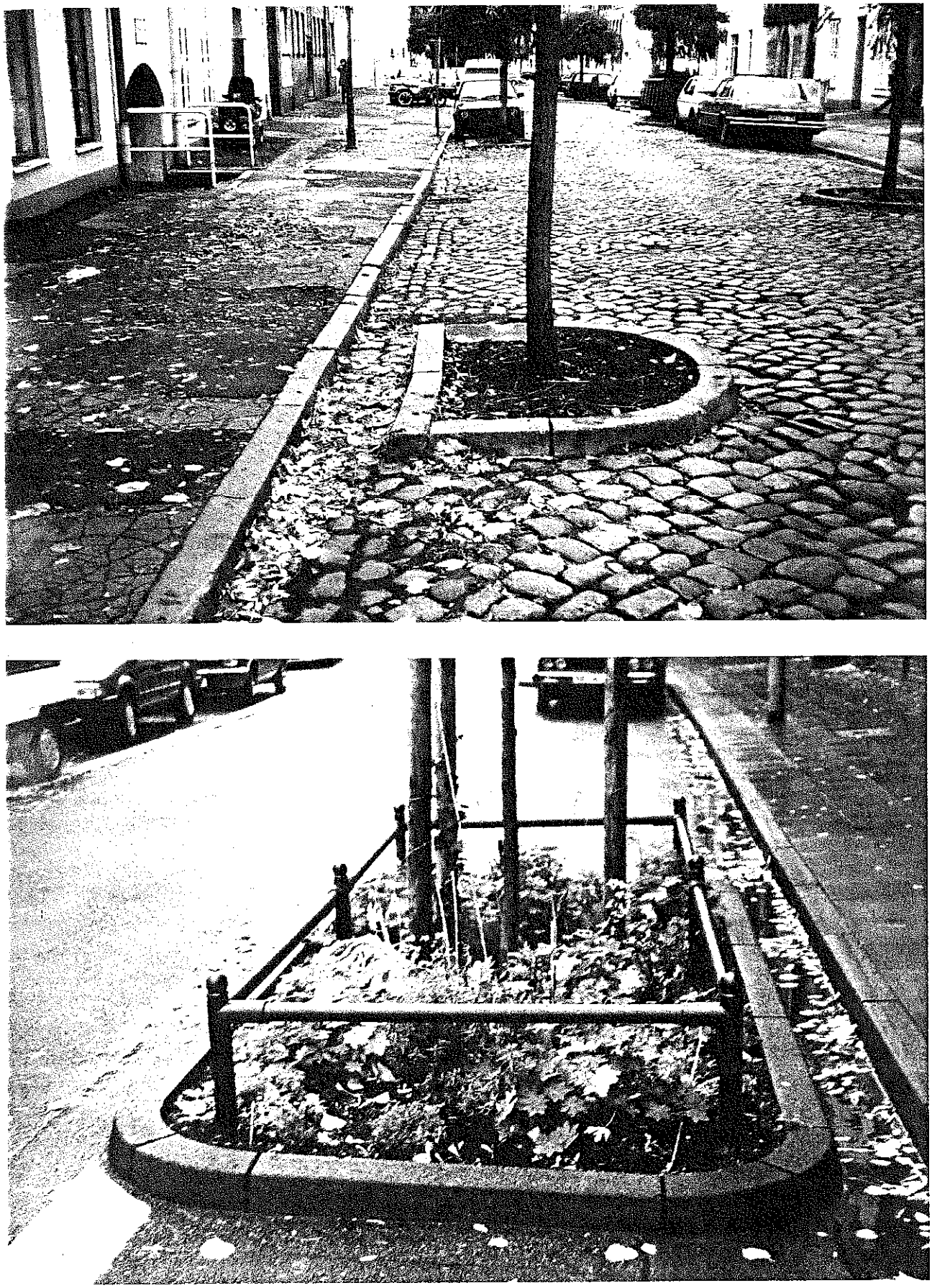


Figure 30. *Pinch points where existing drainage is unaffected.*

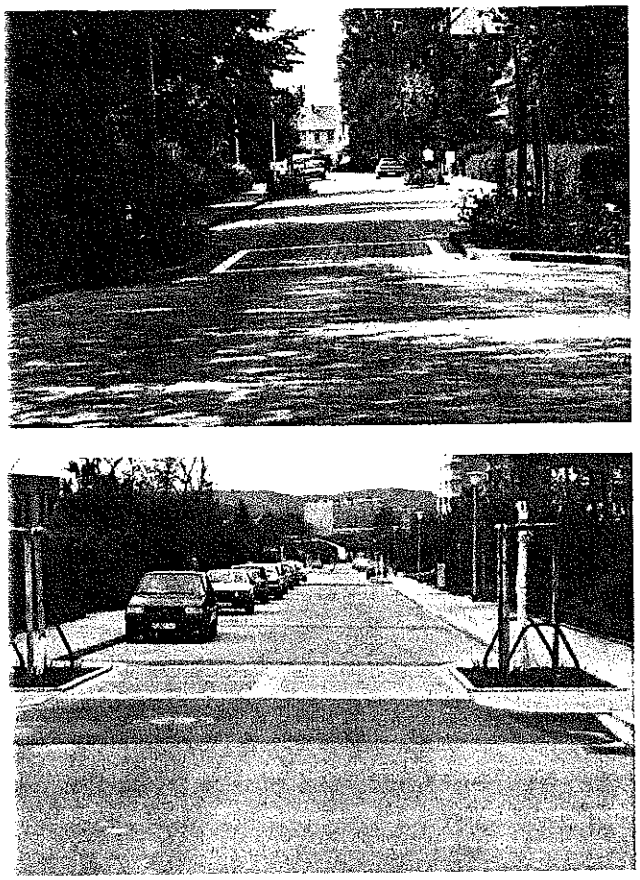


Figure 33. Carriageway between pinch points paved in different material and colour.

Figure 34. *Pavement widening.*

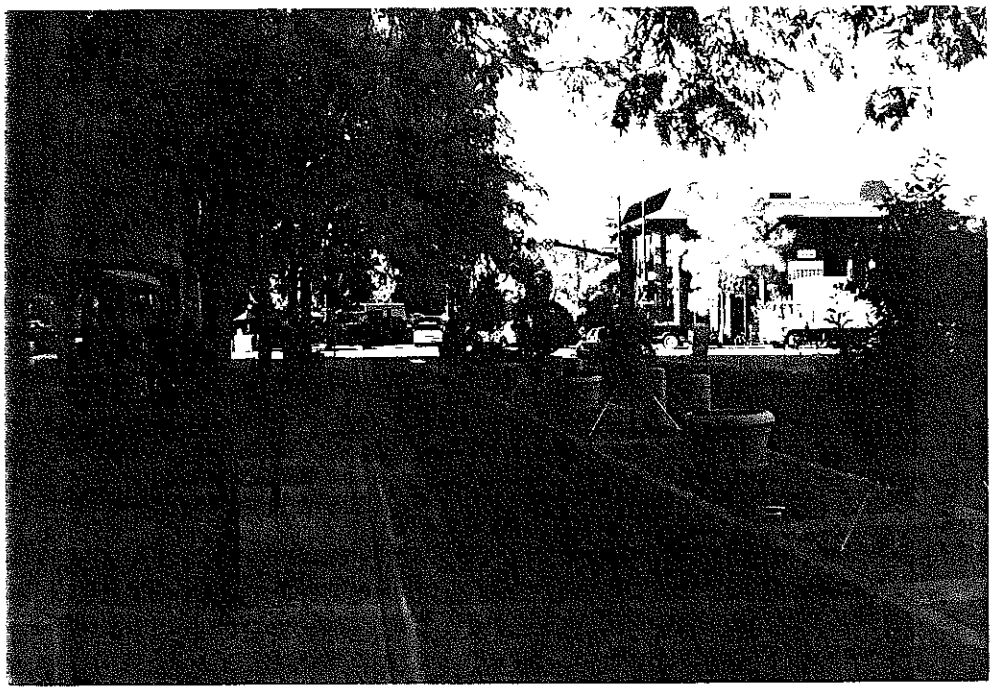
Figure 80. Traffic calming in the historic town centre of Idstein.

Figure 81. Traffic calming in the historic town centre of Rheinbach.

Figure 93. *Combined road hump / pinch point.*

Figure 94. *Entrance treatment in a one-way street in Eindhoven.*

Figure 99. *Raised zebra crossings (Deventer).*



Separated Bicycle Facilities

APPENDIX C: DETAILED ATR & TMC TABLES

Appendix C1: Conwell St Speed & Traffic Characteristics
Appendix C2: Conwell St Intersection Traffic Volumes

Appendix C1: Conwell St Speed & Traffic Characteristics

APPENDIX C1

Table C1: Conwell Street Speed and Volume Characteristics (Average Weekday)

Location	Average Daily Weekday Traffic Volumes			Average Daily Weekday Vehicle Speeds		Percent That Vehicle Speeds Exceeded: 20 mph		30 mph		40 mph		85% Percentile Speed	
	NB	SB	Total	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Conwell Street (South of Route 6)	2,446 vpd	4,143 vpd	6,589 vpd	26 mph	25 mph	93.5%	89.4%	21.9%	15.4%	0.6%	0.4%	31 mph	31 mph
Conwell Street (North of Bradford St)	1,014 vpd	3,199	4,213 vpd	22 mph	23 mph	71.6%	79.8%	8.5%	10.2%	0.4%	0.2%	28 mph	29 mph

Notes:

- vpd = vehicles per day.
- The 85th percentile speed is the value below which 85% and above which 15% of the speeds occur (e.g, if 100 speeds were recorded, the 85 percentile speed would be the 85th highest speed). The 85th percentile speed is typically used to set speed limits on roadways.

Appendix C2: Conwell St Intersection Traffic Volumes

Table C2: Conwell Street Intersection Traffic Volumes (All Modes) - Summer 1998

Midday Peak Hour Traffic Volumes (11:30 AM to 12:30 PM)[1]

	Entering Vehicles			Alternate Modes of Transportation				
Location	Trucks	Cars	Total	Pedestrians	Bicyclists	Other[2]	Total	% Alt Modes[3]
Conwell Street at Cemetery Road	11	648	659	16	72	3	91	12.1%
Conwell Street at Bradford Street	40	894	934	115	108	2	225	19.4%

Notes:

1. Traffic volumes represent total volumes entering each intersection.
2. "Other" alternate modes of transportation represents rollerbladers and motorized scooters.
3. Represents percent alternate modes for all traffic.

APPENDIX D: ATR & TMC DATA COLLECTION

Appendix D1: Automatic Traffic Recorder Data
Appendix D2: Turning Movement Count Data

Appendix D1: Automatic Traffic Recorder Data

SITE NO. 20109 TECHS: JT/WS

FIELD SHEET

LOCATION: Conwell St S of Rt 6

TOWN: P-town

COUNTER NUMBER: TM-1

START TIME: 1:00 END TIME: 12:00

DIRECTION: CHANNEL 1 NB CHANNEL 2 SB

PAVEMENT WIDTH: ~~*~~ 21 TUBE LENGTH: 25

	SET UP	CHECK	PICK UP
DATE	8/26/98		8.28.98
TIME	2:50		12:30
WEATHER	cloudy		SUN
VOLTAGE	6.1		6.Y
WORKING? Y/N	Y		Y

NOTES:

Raw Data - SPEED & VOLUME COUNT

change Site Code on counter to 20109.

cation : CONWELL ST S OF RT 6
ather : CLEAR
Counter : TM1
NUS File: TM0001

Cape Cod Commission
3225 Main Street
Barnstable, MA 02630
(508) 362- 3828

Site Code : 20709
Start Date: 08/24/98
File I.D. : 20709
Page : 1

n	Mon. 08/24		Tues.		Wed.		Thur.		Fri.		Weekday Avg.		Sat.		Sun.	
ue	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
:00 am	*	*	*	*	*	*	34	24	28	16	31	20	*	*	*	*
:00	*	*	*	*	*	*	42	11	39	16	40	14	*	*	*	*
02:00	*	*	*	*	*	*	13	8	15	9	14	8	*	*	*	*
:00	*	*	*	*	*	*	4	5	4	8	4	6	*	*	*	*
:00	*	*	*	*	*	*	3	9	6	11	4	10	*	*	*	*
05:00	*	*	*	*	*	*	7	16	10	24	8	20	*	*	*	*
:00	*	*	*	*	*	*	31	55	27	55	29	55	*	*	*	*
:00	*	*	*	*	*	*	65	125	73	165	69	145	*	*	*	*
08:00	*	*	*	*	*	*	101	155	111	197	106	176	*	*	*	*
09:00	*	*	*	*	*	*	138	205	153	238	146	222	*	*	*	*
:00	*	*	*	*	*	*	139	286	154	325	146	306	*	*	*	*
:00	*	*	*	*	*	*	137	413	160	335	148	374	*	*	*	*
:00 pm	*	*	*	*	*	*	164	409	*	*	164	409	*	*	*	*
:00	*	*	*	*	171	396	200	369	*	*	186	382	*	*	*	*
02:00	*	*	*	*	180	364	149	332	*	*	164	348	*	*	*	*
:00	*	*	*	*	191	343	167	258	*	*	179	300	*	*	*	*
:00	*	*	*	*	221	307	175	294	*	*	198	300	*	*	*	*
05:00	*	*	*	*	168	216	176	248	*	*	172	232	*	*	*	*
06:00	*	*	*	*	147	220	143	241	*	*	145	230	*	*	*	*
:00	*	*	*	*	100	175	133	261	*	*	116	218	*	*	*	*
:00	*	*	*	*	98	126	81	172	*	*	90	149	*	*	*	*
09:00	*	*	*	*	75	88	99	95	*	*	87	92	*	*	*	*
:00	*	*	*	*	111	67	129	87	*	*	120	77	*	*	*	*
0	*	*	*	*	65	53	94	46	*	*	80	50	*	*	*	*
Totals	0	0	0	0	1527	2355	2424	4124	780	1399	2446	4143	0	0	0	0
Combined	0		0		3882		6548		2179		6589		0		0	
Avg. WkDay	.0%	.0%	.0%	.0%	62.4%	56.8%	99.1%	99.5%	31.8%	33.7%			.0%	.0%	.0%	.0%
Peaks							10:00	11:00	11:00	11:00	11:00	11:00				
							139	413	160	335	148	374				
Peaks					04:00	01:00	01:00	12:00			04:00	12:00				
					221	396	200	409			198	409				

DTs

Location : CONWELL ST S OF RT 6
Weather : CLEAR
Counter : TM1
ANUS File: TM0001

Cape Cod Commission
3225 Main Street
Barnstable, MA 02630
(508) 362- 3828

Site Code : 20709
Start Date: 08/24/98
File I.D. : 20709

Start Time	08/24 Mon. Totl	08/25 Tues. Totl	08/26 Wed. Totl	08/27 Thur. Totl	08/28 Fri. Totl	Weekday Avg.	08/29 Sat. Totl	08/30 Sun. Totl
12:00 am	*	*	*	58	44	51	*	*
01:00	*	*	*	53	55	54	*	*
02:00	*	*	*	21	24	22	*	*
03:00	*	*	*	9	12	10	*	*
04:00	*	*	*	12	17	14	*	*
05:00	*	*	*	23	34	28	*	*
06:00	*	*	*	86	82	84	*	*
07:00	*	*	*	190	238	214	*	*
08:00	*	*	*	256	308	282	*	*
09:00	*	*	*	343	391	367	*	*
10:00	*	*	*	425	479	452	*	*
11:00	*	*	*	550	495	522	*	*
12:00 pm	*	*	*	573	*	573	*	*
01:00	*	*	567	569	*	568	*	*
02:00	*	*	544	481	*	512	*	*
03:00	*	*	534	425	*	480	*	*
04:00	*	*	528	469	*	498	*	*
05:00	*	*	384	424	*	404	*	*
06:00	*	*	367	384	*	376	*	*
07:00	*	*	275	394	*	334	*	*
08:00	*	*	224	253	*	238	*	*
09:00	*	*	163	194	*	178	*	*
10:00	*	*	178	216	*	197	*	*
11:00	*	*	118	140	*	129	*	*
Totals	0	0	3882	6548	2179	6587	0	0
Avg. WkDay	.0%	.0%	58.9%	99.4%	33.0%		.0%	.0%
AM Peaks				11:00	11:00	11:00		
				550	495	522		
PM Peaks			01:00	12:00		12:00		
			567	573		573		

ADTs

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

ocation : conwell st s of rt 6
ther : CLEAR
ounter : TM1

Site 20709
Date: 08/26/98
File : spd-60

Direction: NB

gin me	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	170	6	9	40	83	32	0	0	0	0	0	0	0	0	26
02:00	182	4	13	56	76	33	0	0	0	0	0	0	0	0	25
03:00	190	1	10	34	99	44	1	1	0	0	0	0	0	0	27
04:00	219	5	21	54	113	26	0	0	0	0	0	0	0	0	25
05:00	168	4	14	45	63	38	4	0	0	0	0	0	0	0	26
06:00	146	4	6	39	61	35	1	0	0	0	0	0	0	0	26
07:00	100	0	7	20	50	22	1	0	0	0	0	0	0	0	26
08:00	98	1	3	38	48	7	1	0	0	0	0	0	0	0	25
09:00	75	0	3	16	44	12	0	0	0	0	0	0	0	0	26
10:00	110	0	3	36	59	12	0	0	0	0	0	0	0	0	26
11:00	65	0	1	16	32	15	1	0	0	0	0	0	0	0	27
uly tals	1,523	25	90	394	728	276	9	1	0	0	0	0	0	0	26
Percent Total		1.6	5.9	25.9	47.8	18.1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	20.5	21.4	26.7	31.1	32.4

MPH Pace Speed : 20 - 30
umber in pace : 1,122
% in pace : 73.7

eed Exceeded	45 MPH	55 MPH	65 MPH
rcentage	0.0	0.0	0.0
Totals	0	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

ocation : conwell st s of rt 6
ther : CLEAR
ounter : TM1

Site 20709
Date: 08/27/98
File : spd-60

Direction: NB

gin ne	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	34	0	1	7	20	6	0	0	0	0	0	0	0	0	27
01:00	42	0	0	4	19	18	1	0	0	0	0	0	0	0	29
02:00	13	0	0	1	3	9	0	0	0	0	0	0	0	0	30
03:00	4	0	0	0	2	1	1	0	0	0	0	0	0	0	31
04:00	3	0	0	0	2	1	0	0	0	0	0	0	0	0	29
05:00	7	0	1	2	2	1	1	0	0	0	0	0	0	0	26
06:00	31	2	2	6	12	6	3	0	0	0	0	0	0	0	26
07:00	65	2	1	15	32	15	0	0	0	0	0	0	0	0	26
08:00	101	0	7	23	47	22	2	0	0	0	0	0	0	0	26
09:00	137	4	6	24	68	30	4	1	0	0	0	0	0	0	27
10:00	137	4	5	26	65	36	1	0	0	0	0	0	0	0	27
11:00	135	6	5	29	77	18	0	0	0	0	0	0	0	0	25
2:PM	162	0	13	36	75	36	2	0	0	0	0	0	0	0	26
01:00	199	3	12	32	112	39	0	1	0	0	0	0	0	0	26
02:00	148	2	10	35	64	35	0	2	0	0	0	0	0	0	26
03:00	166	1	8	35	90	29	3	0	0	0	0	0	0	0	26
04:00	175	0	6	39	80	46	3	1	0	0	0	0	0	0	27
05:00	174	4	11	36	75	44	1	3	0	0	0	0	0	0	26
06:00	142	4	8	28	71	28	2	1	0	0	0	0	0	0	26
07:00	133	1	7	39	66	17	2	1	0	0	0	0	0	0	26
08:00	81	0	7	24	38	10	2	0	0	0	0	0	0	0	26
09:00	99	0	2	25	58	14	0	0	0	0	0	0	0	0	26
10:00	127	0	5	43	61	17	1	0	0	0	0	0	0	0	26
11:00	93	1	4	18	50	18	2	0	0	0	0	0	0	0	27
ily tals	2,408	34	121	527	1,189	496	31	10	0	0	0	0	0	0	26
Percent Total		1.4	5.0	21.9	49.4	20.6	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	20.8	22.0	27.2	31.8	33.0

MPH Pace Speed : 20 - 30
mber in pace : 1,716
% in pace : 71.3

eed Exceeded :	45 MPH	55 MPH	65 MPH
centage :	0.0	0.0	0.0
Totals :	0	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

ocation : conwell st s of rt 6
ther : CLEAR
ounter : TM1

Site 20709
Date: 08/28/98
File : spd-60

Direction: NB

gin ne	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	28	0	1	2	13	11	0	1	0	0	0	0	0	0	29
01:00	39	0	1	9	17	7	4	1	0	0	0	0	0	0	28
02:00	14	0	0	1	9	4	0	0	0	0	0	0	0	0	28
03:00	4	0	0	1	2	1	0	0	0	0	0	0	0	0	27
04:00	6	0	0	1	3	0	2	0	0	0	0	0	0	0	30
05:00	10	0	0	2	6	2	0	0	0	0	0	0	0	0	27
06:00	26	2	1	3	11	9	0	0	0	0	0	0	0	0	26
07:00	71	1	3	17	32	17	1	0	0	0	0	0	0	0	26
08:00	110	0	7	22	53	24	4	0	0	0	0	0	0	0	27
09:00	152	5	6	35	73	33	0	0	0	0	0	0	0	0	26
10:00	154	2	11	30	75	34	2	0	0	0	0	0	0	0	26
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ily tals	614	10	30	123	294	142	13	2	0	0	0	0	0	0	27
Percent Total		1.6	4.9	20.0	47.9	23.1	2.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	20.9	22.2	27.4	32.3	33.4

MPH Pace Speed : 25 - 35
Number in pace : 436
% in pace : 71.0

ed Exceeded	45 MPH	55 MPH	65 MPH
rcentage	0.0	0.0	0.0
Totals	0	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

ocation : conwell st s of rt 6 — Site 20709
ther : CLEAR — Date: 08/26/98
ounter : TM1 — Direction: SB — File : spd-60

gin ne	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2:PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	395	3	50	181	127	32	1	1	0	0	0	0	0	0	24
02:00	362	7	43	161	122	25	4	0	0	0	0	0	0	0	24
03:00	340	5	39	161	111	23	1	0	0	0	0	0	0	0	24
04:00	307	11	37	122	111	25	0	1	0	0	0	0	0	0	24
05:00	216	0	16	87	82	31	0	0	0	0	0	0	0	0	25
06:00	219	3	25	74	91	25	1	0	0	0	0	0	0	0	25
07:00	175	2	17	58	68	28	2	0	0	0	0	0	0	0	25
08:00	125	3	11	31	50	28	2	0	0	0	0	0	0	0	26
09:00	88	0	4	23	47	14	0	0	0	0	0	0	0	0	26
10:00	67	0	4	21	26	13	1	2	0	0	0	0	0	0	26
11:00	53	0	1	6	26	18	2	0	0	0	0	0	0	0	28
ily tals	2,347	34	247	925	861	262	14	4	0	0	0	0	0	0	24
Percent of Total		1.4	10.5	39.4	36.7	11.2	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	19.1	20.4	24.8	29.6	30.9

MPH Pace Speed : 20 - 30
mber in pace : 1,786
% in pace : 76.1

eed Exceeded	45 MPH	55 MPH	65 MPH
centage	0.0	0.0	0.0
otals	0	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

ocation : conwell st s of rt 6 — Site 20709
ther : CLEAR — Date: 08/27/98
ounter : TM1 — Direction: SB — File : spd-60

gin me	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	24	0	1	6	7	10	0	0	0	0	0	0	0	0	27
01:00	11	0	0	1	4	6	0	0	0	0	0	0	0	0	29
02:00	8	0	0	2	4	2	0	0	0	0	0	0	0	0	27
03:00	5	0	0	3	1	1	0	0	0	0	0	0	0	0	25
04:00	9	0	2	2	3	2	0	0	0	0	0	0	0	0	25
05:00	16	1	1	4	5	4	1	0	0	0	0	0	0	0	26
06:00	55	1	0	11	25	14	2	2	0	0	0	0	0	0	28
07:00	125	0	3	25	59	36	2	0	0	0	0	0	0	0	27
08:00	155	3	5	35	60	48	4	0	0	0	0	0	0	0	27
09:00	206	2	17	56	79	49	3	0	0	0	0	0	0	0	26
10:00	285	5	29	88	120	40	3	0	0	0	0	0	0	0	25
11:00	411	5	60	204	118	23	1	0	0	0	0	0	0	0	23
2:PM	409	5	34	147	183	38	2	0	0	0	0	0	0	0	25
01:00	368	11	33	135	146	41	2	0	0	0	0	0	0	0	24
02:00	330	18	34	114	122	40	1	1	0	0	0	0	0	0	24
03:00	257	4	29	94	96	33	1	0	0	0	0	0	0	0	24
04:00	294	5	24	117	115	30	3	0	0	0	0	0	0	0	24
05:00	246	5	30	72	102	35	2	0	0	0	0	0	0	0	25
06:00	238	0	17	91	98	31	1	0	0	0	0	0	0	0	25
07:00	260	6	32	93	96	32	1	0	0	0	0	0	0	0	24
08:00	172	0	14	45	79	33	1	0	0	0	0	0	0	0	26
09:00	95	0	4	31	36	19	5	0	0	0	0	0	0	0	26
10:00	87	0	2	17	46	20	2	0	0	0	0	0	0	0	27
11:00	47	1	1	10	26	8	1	0	0	0	0	0	0	0	26
ily tals	4,113	72	372	1,403	1,630	595	38	3	0	0	0	0	0	0	25
Percent Total		1.8	9.0	34.1	39.6	14.5	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds

10%	15%	50%	85%	90%
19.6	20.6	25.6	30.2	31.9

MPH Pace Speed : 20 - 30
mber in pace : 3,033
% in pace : 73.7

eed Exceeded	45 MPH	55 MPH	65 MPH
rcentage	0.0	0.0	0.0
Totals	0	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

ıcation : conwell st s of rt 6 — Site 20709
ther : CLEAR — Date: 08/28/98
ıunter : TM1 — Direction: SB — File : spd-60

gin ne	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	16	0	0	1	9	5	1	0	0	0	0	0	0	0	29
01:00	16	0	0	6	6	3	1	0	0	0	0	0	0	0	27
)2:00	9	0	0	5	3	1	0	0	0	0	0	0	0	0	25
)3:00	8	0	1	1	1	5	0	0	0	0	0	0	0	0	28
)4:00	11	0	0	1	4	5	0	1	0	0	0	0	0	0	30
05:00	24	2	1	6	8	6	1	0	0	0	0	0	0	0	25
)6:00	55	1	0	9	26	18	0	1	0	0	0	0	0	0	28
)7:00	163	0	3	21	83	55	1	0	0	0	0	0	0	0	28
)8:00	197	5	4	37	91	56	4	0	0	0	0	0	0	0	27
09:00	238	2	8	61	118	46	3	0	0	0	0	0	0	0	26
10:00	324	3	29	137	115	39	1	0	0	0	0	0	0	0	24
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2:PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
)3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
)4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ily als	1,061	13	46	285	464	239	12	2	0	0	0	0	0	0	26
Percent of Total		1.2	4.3	26.9	43.7	22.5	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	20.8	21.8	27.0	32.0	33.1

MPH Pace Speed : 20 - 30
mber in pace : 749
% in pace : 70.6

ed Exceeded	45 MPH	55 MPH	65 MPH
centage	0.0	0.0	0.0
Totals	0	0	0

SITE NO. 99999 TECHS: JJ LS

FIELD SHEET

LOCATION: Conwell st N of Bradford st

TOWN: P-town

COUNTER NUMBER: TM-4

START TIME: 2:00 END TIME: 2:00

DIRECTION: CHANNEL 1 SB CHANNEL 2 NB

PAVEMENT WIDTH: 21 TUBE LENGTH: 25

	SET UP	CHECK	PICK UP
DATE	9/1/98		9.3
TIME	1:48		2:14
WEATHER	clear		SUN
VOLTAGE	6.4		6.4
WORKING? Y/N	Y		Y

NOTES:

L ation : CONWELL ST N OF 6A
Weather : P-TOWN
Counter : TM4
J IUS File: 7151

Cape Cod Commission
3225 Main Street
Barnstable, MA 02630
(508) 362- 3828

Site Code : 7151
Start Date: 08/31/98
File I.D. : 7151

gin	Mon.	08/31	Tues.		Wed.		Thur.		Fri.		Weekday	Avg.	Sat.		Sun.	
ne	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1 00 am	*	*	*	*	19	3	18	1	*	*	18	2	*	*	*	*
01:00	*	*	*	*	6	1	10	0	*	*	8	0	*	*	*	*
02:00	*	*	*	*	8	0	6	0	*	*	7	0	*	*	*	*
0 00	*	*	*	*	6	0	8	1	*	*	7	0	*	*	*	*
0 00	*	*	*	*	7	0	10	0	*	*	8	0	*	*	*	*
05:00	*	*	*	*	19	0	18	1	*	*	18	0	*	*	*	*
0 00	*	*	*	*	37	2	40	1	*	*	38	2	*	*	*	*
0 00	*	*	*	*	100	7	98	7	*	*	99	7	*	*	*	*
08:00	*	*	*	*	180	34	161	14	*	*	170	24	*	*	*	*
09:00	*	*	*	*	199	91	193	38	*	*	196	64	*	*	*	*
1 00	*	*	*	*	228	102	245	60	*	*	236	81	*	*	*	*
11:00	*	*	*	*	277	85	298	85	*	*	288	85	*	*	*	*
1 00 pm	*	*	*	*	270	78	325	80	*	*	298	79	*	*	*	*
0 00	*	*	*	*	235	88	264	94	*	*	250	91	*	*	*	*
02:00	*	*	192	85	227	87	*	*	*	*	210	86	*	*	*	*
0 00	*	*	232	115	230	92	*	*	*	*	231	104	*	*	*	*
0 00	*	*	222	154	248	112	*	*	*	*	235	133	*	*	*	*
05:00	*	*	216	122	176	74	*	*	*	*	196	98	*	*	*	*
06:00	*	*	199	86	208	46	*	*	*	*	204	66	*	*	*	*
0 00	*	*	175	44	174	22	*	*	*	*	174	33	*	*	*	*
08:00	*	*	132	50	120	11	*	*	*	*	126	30	*	*	*	*
09:00	*	*	86	16	66	6	*	*	*	*	76	11	*	*	*	*
1 00	*	*	71	26	74	3	*	*	*	*	72	14	*	*	*	*
00	*	*	31	7	37	0	*	*	*	*	34	4	*	*	*	*
als	0	0	1556	705	3151	944	1694	382	0	0	3199	1014	0	0	0	0
Combined	0		2261		4095		2076		0		4213		0		0	
Avg. WkDay	.0%	.0%	48.6%	69.5%	98.5%	93.1%	52.9%	37.6%	.0%	.0%			.0%	.0%	.0%	.0%
AM Peaks					11:00	10:00	11:00	11:00			11:00	11:00				
					277	102	298	85			288	85				
PM Peaks			03:00	04:00	12:00	04:00	12:00	01:00			12:00	04:00				
			232	154	270	112	325	94			298	133				

Ts

cation : CONWELL ST N OF 6A
ather : P-TOWN
Counter : TM4
NUS File: 7151

Cape Cod Commission
3225 Main Street
Barnstable, MA 02630
(508) 362- 3828

Site Code : 7151
Start Date: 08/31/98
File I.D. : 7151

in	08/31	Mon.	09/01	Tues.	09/02	Wed.	09/03	Thur.	09/04	Fri.	Weekday	09/05	Sat.	09/06	Sun.
ue		Totl		Totl		Totl		Totl		Totl	Avg.		Totl		Totl
:00 am		*		*		22		19		*	20		*		*
:00		*		*		7		10		*	8		*		*
02:00		*		*		8		6		*	7		*		*
:00		*		*		6		9		*	8		*		*
:00		*		*		7		10		*	8		*		*
05:00		*		*		19		19		*	19		*		*
:00		*		*		39		41		*	40		*		*
:00		*		*		107		105		*	106		*		*
08:00		*		*		214		175		*	194		*		*
09:00		*		*		290		231		*	260		*		*
:00		*		*		330		305		*	318		*		*
:00		*		*		362		383		*	372		*		*
:00 pm		*		*		348		405		*	376		*		*
:00		*		*		323		358		*	340		*		*
02:00		*		277		314		*		*	296		*		*
:00		*		347		322		*		*	334		*		*
:00		*		376		360		*		*	368		*		*
05:00		*		338		250		*		*	294		*		*
06:00		*		285		254		*		*	270		*		*
:00		*		219		196		*		*	208		*		*
:00		*		182		131		*		*	156		*		*
09:00		*		102		72		*		*	87		*		*
:00		*		97		77		*		*	87		*		*
0		*		38		37		*		*	38		*		*
otals		0		2261		4095		2076		0	4214		0		0
g. WkDay		.0%		53.6%		97.1%		49.2%		.0%			.0%		.0%
AM Peaks						11:00		11:00			11:00				
						362		383			372				
PM Peaks				04:00		04:00		12:00			12:00				
				376		360		405			376				

ADTs

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

itle1 : CONWELL ST N OF 6A
e2 : P-TOWN
itle3 : TM4

Site 7151
Date: 09/01/98
File : spd-60

Direction: SB

gin me	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2:PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	174	2	39	56	58	18	1	0	0	0	0	0	0	0	24
03:00	224	15	50	83	66	10	0	0	0	0	0	0	0	0	22
04:00	222	6	51	98	57	9	1	0	0	0	0	0	0	0	22
05:00	219	4	45	102	59	9	0	0	0	0	0	0	0	0	22
06:00	205	8	36	73	65	21	2	0	0	0	0	0	0	0	23
07:00	169	5	14	69	59	21	1	0	0	0	0	0	0	0	24
08:00	139	3	20	62	40	14	0	0	0	0	0	0	0	0	23
09:00	95	0	4	34	34	21	2	0	0	0	0	0	0	0	26
10:00	69	1	8	22	28	8	1	1	0	0	0	0	0	0	25
11:00	36	0	2	14	12	6	2	0	0	0	0	0	0	0	26
ily tals	1,552	44	269	613	478	137	10	1	0	0	0	0	0	0	23
Percent Total		2.8	17.3	39.5	30.8	8.8	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	17.1	18.5	23.8	29.1	29.9

MPH Pace Speed : 20 - 30
mber in pace : 1,091
% in pace : **70.3**

eed Exceeded	45 MPH	55 MPH	65 MPH
rcentage	0.0	0.0	0.0
Totals	0	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

tle1 : CONWELL ST N OF 6A
e2 : P-TOWN
dle3 : TM4

Direction: SB

Site 7151
Date: 09/02/98
File : spd-60

gin me	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	18	0	1	3	8	6	0	0	0	0	0	0	0	0	27
01:00	7	0	1	1	4	1	0	0	0	0	0	0	0	0	26
02:00	8	0	0	1	3	3	1	0	0	0	0	0	0	0	30
03:00	6	0	1	2	0	1	0	1	1	0	0	0	0	0	30
04:00	5	0	1	0	1	3	0	0	0	0	0	0	0	0	28
05:00	15	1	2	5	1	4	2	0	0	0	0	0	0	0	25
06:00	34	0	6	10	10	7	1	0	0	0	0	0	0	0	25
07:00	93	1	10	20	37	22	3	0	0	0	0	0	0	0	26
08:00	177	5	16	54	66	33	3	0	0	0	0	0	0	0	25
09:00	195	6	35	69	66	16	2	1	0	0	0	0	0	0	23
10:00	226	7	52	86	60	18	2	0	1	0	0	0	0	0	23
11:00	266	6	45	128	64	23	0	0	0	0	0	0	0	0	23
2:PM	269	23	41	121	67	15	0	2	0	0	0	0	0	0	22
01:00	254	5	43	119	74	10	2	1	0	0	0	0	0	0	23
02:00	217	6	37	108	56	10	0	0	0	0	0	0	0	0	22
03:00	224	7	50	98	59	10	0	0	0	0	0	0	0	0	22
04:00	256	11	41	108	77	19	0	0	0	0	0	0	0	0	23
05:00	178	7	18	62	67	23	1	0	0	0	0	0	0	0	24
06:00	206	4	28	77	69	24	4	0	0	0	0	0	0	0	24
07:00	175	8	23	83	45	14	2	0	0	0	0	0	0	0	23
08:00	127	5	17	45	48	12	0	0	0	0	0	0	0	0	24
09:00	67	1	6	27	29	3	1	0	0	0	0	0	0	0	24
10:00	77	1	8	16	32	20	0	0	0	0	0	0	0	0	26
11:00	38	2	2	13	11	7	2	1	0	0	0	0	0	0	26
ily tals	3,138	106	484	1,256	954	304	26	6	2	0	0	0	0	0	23
Percent Total		3.4	15.4	40.0	30.4	9.7	0.8	0.2	0.1	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	17.1	18.8	23.9	29.3	30.4

MPH Pace Speed : 20 - 30
Number in pace : 2,210
% in pace : 70.4

ed Exceeded	45 MPH	55 MPH	65 MPH
centage	0.1	0.0	0.0
Totals	2	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

itle1 : CONWELL ST N OF 6A
e2 : P-TOWN
ıle3 : TM4

Site 7151
Date: 09/03/98
File : spd-60

Direction: SB

gin me	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	21	0	3	4	7	5	2	0	0	0	0	0	0	0	27
01:00	11	0	1	4	3	2	1	0	0	0	0	0	0	0	26
02:00	3	0	0	0	1	2	0	0	0	0	0	0	0	0	30
03:00	10	1	0	3	4	1	1	0	0	0	0	0	0	0	25
04:00	6	0	1	1	2	2	0	0	0	0	0	0	0	0	26
05:00	22	0	4	6	5	5	2	0	0	0	0	0	0	0	26
06:00	33	2	4	6	13	6	2	0	0	0	0	0	0	0	25
07:00	85	0	16	24	25	15	5	0	0	0	0	0	0	0	25
08:00	160	0	16	55	54	31	4	0	0	0	0	0	0	0	26
09:00	195	4	37	72	62	16	1	2	1	0	0	0	0	0	24
10:00	240	12	37	110	59	19	3	0	0	0	0	0	0	0	23
11:00	283	21	58	130	61	10	2	1	0	0	0	0	0	0	22
2:PM	329	21	71	152	72	12	1	0	0	0	0	0	0	0	22
01:00	270	21	39	137	62	11	0	0	0	0	0	0	0	0	22
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ily tals	1,668	82	287	704	430	137	24	3	1	0	0	0	0	0	23
Percent Total		4.9	17.2	42.2	25.8	8.2	1.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	

ıtile Speeds	10%	15%	50%	85%	90%
	16.5	17.9	23.3	29.0	30.0

MPH Pace Speed : 20 - 30
ımber in pace : 1,134
% in pace : **68.0**

eed Exceeded	45 MPH	55 MPH	65 MPH
rcentage	0.1	0.0	0.0
Totals	1	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

tle1 : CONWELL ST N OF 6A
'e2 : P-TOWN
ıle3 : TM4

Site 7151
Date: 09/01/98
File : spd-60

Direction: NB

gin ne	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	74	2	12	34	16	9	1	0	0	0	0	0	0	0	23
03:00	114	3	24	50	25	10	1	1	0	0	0	0	0	0	23
04:00	152	4	42	65	31	10	0	0	0	0	0	0	0	0	22
05:00	118	2	20	50	33	12	1	0	0	0	0	0	0	0	23
06:00	91	4	20	33	27	6	1	0	0	0	0	0	0	0	23
07:00	50	0	13	18	13	6	0	0	0	0	0	0	0	0	23
08:00	50	5	18	18	7	2	0	0	0	0	0	0	0	0	20
09:00	16	1	5	8	2	0	0	0	0	0	0	0	0	0	20
10:00	30	0	8	13	7	1	0	1	0	0	0	0	0	0	23
11:00	7	0	2	3	0	2	0	0	0	0	0	0	0	0	23
ly als	702	21	164	292	161	58	4	2	0	0	0	0	0	0	23
Percent Total		3.0	23.4	41.6	22.9	8.3	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	16.5	17.6	22.8	28.7	29.8

MPH Pace Speed : 15 - 25
Number in pace : 456
% in pace : 65.0

ed Exceeded	45 MPH	55 MPH	65 MPH
centage	0.0	0.0	0.0
Totals	0	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

Title1 : CONWELL ST N OF 6A — Site 7151
Title2 : P-TOWN — Date: 09/02/98
Title3 : TM4 — Direction: NB — File : spd-60

Begin Time	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	3	0	0	2	1	0	0	0	0	0	0	0	0	0	24
01:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	-
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	0	0	1	1	0	0	0	0	0	0	0	0	0	24
07:00	5	0	2	0	3	0	0	0	0	0	0	0	0	0	23
08:00	27	1	2	16	8	0	0	0	0	0	0	0	0	0	23
09:00	85	4	19	25	28	8	1	0	0	0	0	0	0	0	23
10:00	109	7	30	37	26	8	0	0	1	0	0	0	0	0	22
11:00	78	7	19	25	19	8	0	0	0	0	0	0	0	0	22
12:PM	79	7	19	27	20	4	1	1	0	0	0	0	0	0	22
01:00	85	2	18	37	28	0	0	0	0	0	0	0	0	0	22
02:00	90	3	16	25	36	7	2	0	1	0	0	0	0	0	24
03:00	96	3	12	41	31	8	0	0	1	0	0	0	0	0	24
04:00	103	3	19	46	23	12	0	0	0	0	0	0	0	0	23
05:00	83	4	22	33	17	6	0	1	0	0	0	0	0	0	22
06:00	51	5	11	20	14	1	0	0	0	0	0	0	0	0	21
07:00	20	2	5	8	5	0	0	0	0	0	0	0	0	0	21
08:00	13	0	5	5	2	1	0	0	0	0	0	0	0	0	22
09:00	4	0	1	3	0	0	0	0	0	0	0	0	0	0	21
10:00	5	1	2	2	0	0	0	0	0	0	0	0	0	0	17
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily Totals	939	50	202	353	262	63	4	2	3	0	0	0	0	0	22
Percent of Total		5.3	21.5	37.6	27.9	6.7	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	

Percentile Speeds	10%	15%	50%	85%	90%
	16.1	17.3	23.1	28.7	29.6

10 MPH Pace Speed : 20 - 30
Number in pace : 615
% in pace : 65.5

Speed Exceeded	45 MPH	55 MPH	65 MPH
Percentage	0.3	0.0	0.0
Totals	3	0	0

Cape Cod Commission

3225 Main Street
Barnstable, MA 02630

tle1 : CONWELL ST N OF 6A — Site 7151
le2 : P-TOWN — Date: 09/03/98
itle3 : TM4 — Direction: NB — File : spd-60

gin ne	Total	1-14 MPH	15-19 MPH	20-24 MPH	25-29 MPH	30-34 MPH	35-39 MPH	40-44 MPH	45-49 MPH	50-54 MPH	55-59 MPH	60-64 MPH	65-69 MPH	70-99 MPH	Avg
12:AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	22
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	22
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	17
06:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	-
07:00	7	0	2	3	2	0	0	0	0	0	0	0	0	0	22
08:00	13	2	3	5	0	3	0	0	0	0	0	0	0	0	21
09:00	38	5	15	11	5	2	0	0	0	0	0	0	0	0	19
10:00	49	8	20	14	5	2	0	0	0	0	0	0	0	0	19
11:00	89	2	24	33	20	5	3	2	0	0	0	0	0	0	23
2:PM	78	8	19	32	11	8	0	0	0	0	0	0	0	0	21
01:00	92	5	20	36	23	5	1	1	1	0	0	0	0	0	23
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ily tals	370	31	104	136	66	25	4	3	1	0	0	0	0	0	21
Percent of Total		8.4	28.1	36.8	17.8	6.8	1.1	0.8	0.3	0.0	0.0	0.0	0.0	0.0	

ntile Speeds	10%	15%	50%	85%	90%
	15.3	16.2	21.8	28.3	29.7

MPH Pace Speed : 15 - 25
mber in pace : 240
% in pace : 64.9

eed Exceeded	45 MPH	55 MPH	65 MPH
rcentage	0.3	0.0	0.0
otals	1	0	0

Appendix D2: Turning Movement Count Data

TURNING MOVEMENT DATA SHEET

Town: PROVINCETOWN Town No. 15

Intersection Code: 2262

Major Road N-S or E-W *Minor Road*

Date: 8.28.98

Location: CONWELL ST / BRADFORD / RT 6A

Counted By: JJ / PT

Other Legs:

Counter No. 3 / 4

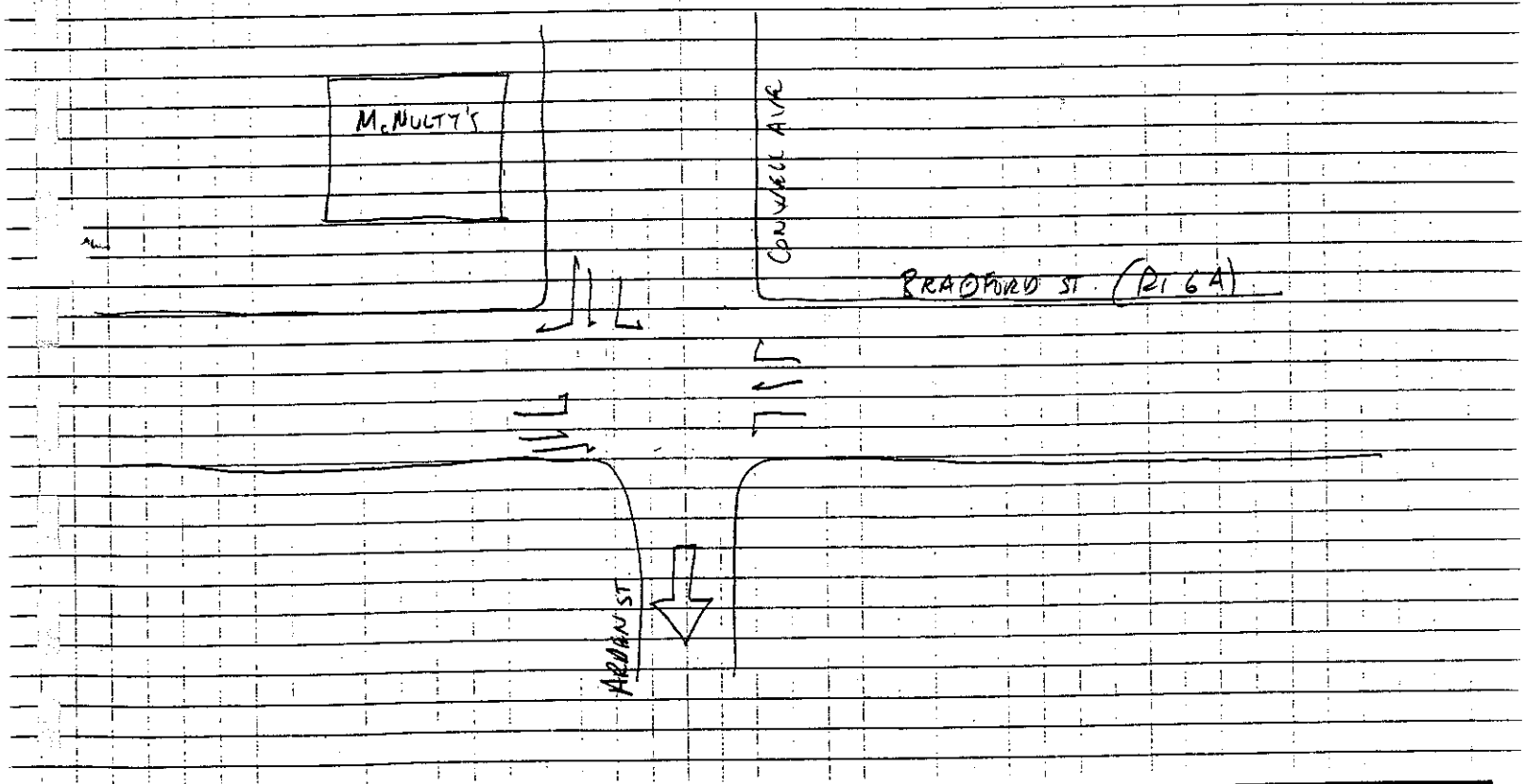
Start Time: 11:30 End Time: 12:30

File Name: 2262a (pe
2262b (co

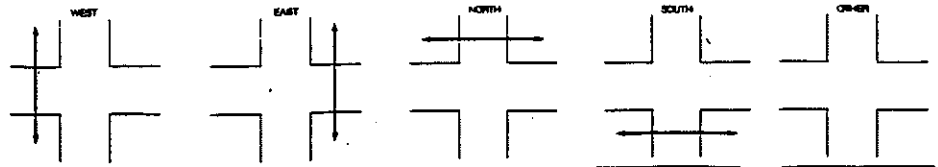
Weather: SUN

Control: Signalized
Unsignalized

Intersection Geometry



PEDESTRIAN & BICYCLE COUNTS



	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes

COMMENTS:

Cape Cod Commission

S e Code : 2262
N-S Street: Conwell St
Street: Bradford/6A
w ther : clear

Movements by: Pd/Bik/Oth

PAGE: 1
FILE: 2262a
DATE: 8/28/98

Time Bin	From North RT	THRU	LT	From East RT	THRU	LT	From South RT	THRU	LT	From West RT	THRU	LT	Vehicle Total
	P	B	O	P	B	O	O	B	P	O	B	P	
11:30	5	13	0	9	4	0	0	10	1	0	7	2	51
1 45	17	15	0	0	0	0	0	3	7	0	9	4	55
H TOTAL	22	28	0	9	4	0	0	13	8	0	16	6	106
12:00 PM	10	18	0	7	0	0	2	6	3	0	4	10	60
1 15	22	6	0	1	2	0	0	5	5	0	6	12	59
D... TOTAL	54	52	0	17	6	0	2	24	16	0	26	28	225

PEAK PERIOD ANALYSIS FOR THE PERIOD: 11:30 AM - 12:30 PM

DIRECTION FROM	START PEAK HOUR	PEAK HR FACTOR	VOLUMES Right	Thru	Left	Total	PERCENTS Right	Thru	Left
North	11:30 AM	0.83	54	52	0	106	51	49	0
East	11:30 AM	0.44	17	6	0	23	74	26	0
South	11:30 AM	0.95	2	24	16	42	5	57	38
West	11:30 AM	0.75	0	26	28	54	0	48	52

Entire Intersection

North	[illegible]	0.83	54	52	0	106	51	49	0
East		0.44	17	6	0	23	74	26	0
South		0.95	2	24	16	42	5	57	38
West		0.75	0	26	28	54	0	48	52

P= Peds

B = Bikes

O = Other (Rollerblades / Skateboards)

Cape Cod Commission

te Code : 2262
S Street: Conwell St
Street: Bradford/Rt 6
ather : Clear

PAGE: 1
FILE: 2262b

Sum of the Cars and Trucks

DATE: 8/28/98

Time	From North			From East			From South			From West			Vehicle
gin	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	Total
11:30	58	2	12	8	70	0	0	0	0	0	73	25	248
:45	53	3	11	13	49	1	0	0	0	0	80	27	237
TOTAL	111	5	23	21	119	1	0	0	0	0	153	52	485
12:00 PM	56	2	16	14	54	0	0	0	0	1	60	30	233
:15	51	0	10	13	37	0	0	0	0	1	64	40	216
Y TOTAL	218	7	49	48	210	1	0	0	0	2	277	122	934

PEAK PERIOD ANALYSIS FOR THE PERIOD: 11:30 AM - 12:30 PM

DIRECTION FROM	START PEAK HOUR	PEAK HR FACTOR	VOLUMES Right	Thru	Left	Total	PERCENTS Right	Thru	Left
North	11:30 AM	0.93	218	7	49	274	80	3	18
East	11:30 AM	0.83	48	210	1	259	19	81	0
South	11:30 AM	0.00	0	0	0	0	0	0	0
West	11:30 AM	0.94	2	277	122	401	0	69	30

Entire Intersection

North	11:30 AM	0.93	218	7	49	274	80	3	18
East		0.83	48	210	1	259	19	81	0
South		0.00	0	0	0	0	0	0	0
West		0.94	2	277	122	401	0	69	30

Cape Cod Commission

te Code : 2262
S Street: Conwell St
Street: Bradford/Rt 6
ather : Clear

PAGE: 1
FILE: 2262b
DATE: 8/28/98

Movements by: Cars

Time Begin	From North RT	THRU	LT	From East RT	THRU	LT	From South RT	THRU	LT	From West RT	THRU	LT	Vehicle Total
:30	54	2	12	7	68	0	0	0	0	0	71	25	239
11:45	53	3	9	13	47	1	0	0	0	0	76	22	224
TOTAL	107	5	21	20	115	1	0	0	0	0	147	47	463
12:00 PM	53	2	16	13	51	0	0	0	0	1	55	27	218
12:15	51	0	10	13	36	0	0	0	0	1	63	39	213
TOTAL	211	7	47	46	202	1	0	0	0	2	265	113	894

PEAK PERIOD ANALYSIS FOR THE PERIOD: 11:30 AM - 12:30 PM

DIRECTION FROM	START PEAK HOUR	PEAK HR FACTOR	VOLUMES Right	Thru	Left	Total	PERCENTS Right	Thru	Left
North	11:30 AM	0.93	211	7	47	265	80	3	18
East	11:30 AM	0.83	46	202	1	249	18	81	0
South	11:30 AM	0.00	0	0	0	0	0	0	0
West	11:30 AM	0.92	2	265	113	380	1	70	30

Entire Intersection

North	11:30 AM	0.93	211	7	47	265	80	3	18
East		0.83	46	202	1	249	18	81	0
South		0.00	0	0	0	0	0	0	0
West		0.92	2	265	113	380	1	70	30

Cape Cod Commission

Site Code : 2262
S Street: Conwell St
Street: Bradford/Rt 6
Weather : Clear

PAGE: 1
FILE: 2262b
DATE: 8/28/98

Movements by: Trucks

Time Begin	From North RT	From North THRU	From North LT	From East RT	From East THRU	From East LT	From South RT	From South THRU	From South LT	From West RT	From West THRU	From West LT	Vehicle Total
:30	4	0	0	1	2	0	0	0	0	0	2	0	9
11:45	0	0	2	0	2	0	0	0	0	0	4	5	13
TOTAL	4	0	2	1	4	0	0	0	0	0	6	5	22
12:00 PM	3	0	0	1	3	0	0	0	0	0	5	3	15
12:15	0	0	0	0	1	0	0	0	0	0	1	1	3
TOTAL	7	0	2	2	8	0	0	0	0	0	12	9	40

Cape Cod Commission

Site Code : 2262
S Street: Conwell St
E-W Street: Bradford/Rt 6
Weather : Clear

PAGE: 1
FILE: 2262b
DATE: 8/28/98

Movements by: Trucks

PEAK PERIOD ANALYSIS FOR THE PERIOD: 11:30 AM - 12:30 PM

DIRECTION FROM	START PEAK HOUR	PEAK HR FACTOR	VOLUMES Right	VOLUMES Thru	VOLUMES Left	VOLUMES Total	PERCENTS Right	PERCENTS Thru	PERCENTS Left
North	11:30 AM	0.56	7	0	2	9	78	0	22
East	11:30 AM	0.63	2	8	0	10	20	80	0
South	11:30 AM	0.00	0	0	0	0	0	0	0
West	11:30 AM	0.58	0	12	9	21	0	57	43

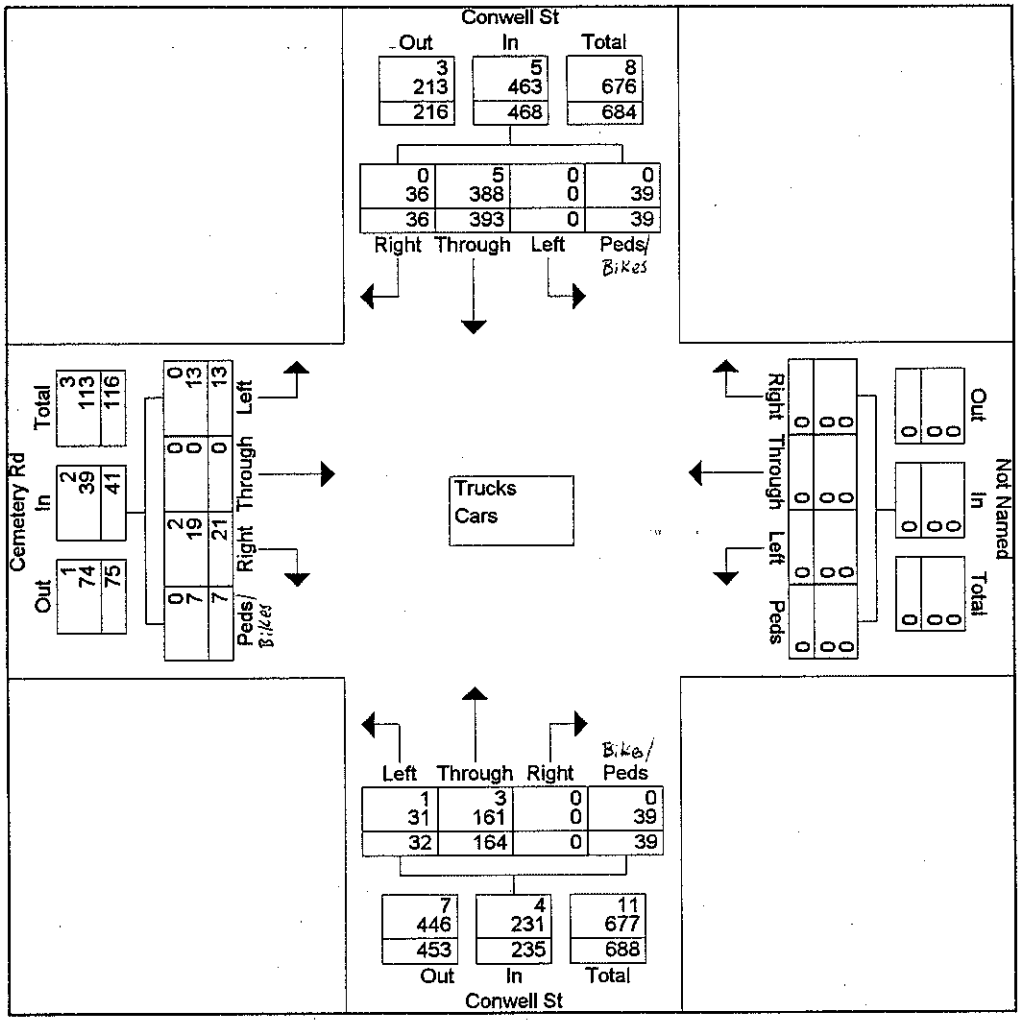
Entire Intersection

North	11:30 AM	0.56	7	0	2	9	78	0	22
East		0.63	2	8	0	10	20	80	0
South		0.00	0	0	0	0	0	0	0
West		0.58	0	12	9	21	0	57	43

JAMAR Technologies, Inc.
151 Keith Valley Road
Horsham, PA 19044
Traffic Counting Equipment and Supplies

File Name : Conwell
Site Code : 66778899
Start Date :

08/05/1998



CONWELL STREET AT CEMETERY ROAD

Conwell St/Cemetery Rd
Provincetown
Clear - 85
08/05/1998

JAMAR Technologies, Inc.
151 Keith Valley Road
Horsham, PA 19044
Traffic Counting Equipment and Supplies

File Name : Conwell
Site Code : 66778899
Start Date :

Groups Printed: Trucks - Cars

	Conwell St From North					Not Named From East	Conwell St From South					Cemetery Rd From West					
End Time	Right	Thru	Left	Peds & Bikes	App. Total	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0			1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:45	10	100	0	10	120	0	0	32	12	4	48	2	0	7	2	11	179
12:00	11	96	0	11	118	0	0	40	6	11	57	8	0	2	0	10	185
Total	21	196	0	21	238	0	0	72	18	15	105	10	0	9	2	21	364
12:15	6	99	0	8	113	0	0	49	9	13	71	11	0	4	5	20	204
12:30	9	98	0	10	117	0	0	43	5	11	59	0	0	0	0	0	176
Grand Total	36	393	0	39	468	0	0	164	32	39	235	21	0	13	7	41	744
Apprch %	7.7	84.0	0.0	8.3			0.0	69.8	13.6	16.6		51.2	0.0	31.7	17.1		
Total %	4.8	52.8	0.0	5.2	62.9	0.0	0.0	22.0	4.3	5.2	31.6	2.8	0.0	1.7	0.9	5.5	

Conwell St/Cemetery Rd
Provincetown
Clear - 85
08/05/1998

JAMAR Technologies, Inc.
151 Keith Valley Road
Horsham, PA 19044
Traffic Counting Equipment and Supplies

File Name : Conwell
Site Code : 66778899
Start Date :

Groups Printed: Cars

	Conwell St From North					Not Named From East	Conwell St From South					Cemetery Rd From West					
End Time	Right	Thru	Left	Peds & Bikes	App. Total	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0			1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:45	10	100	0	10	120	0	0	30	12	4	46	2	0	7	2	11	177
12:00	11	93	0	11	115	0	0	39	6	11	56	7	0	2	0	9	180
Total	21	193	0	21	235	0	0	69	18	15	102	9	0	9	2	20	357
12:15	6	97	0	8	111	0	0	49	8	13	70	10	0	4	5	19	200
12:30	9	98	0	10	117	0	0	43	5	11	59	0	0	0	0	0	176
Grand Total	36	388	0	39	463	0	0	161	31	39	231	19	0	13	7	39	733
Apprch %	7.8	83.8	0.0	8.4			0.0	69.7	13.4	16.9		48.7	0.0	33.3	17.9		
Total %	4.9	52.9	0.0	5.3	63.2	0.0	0.0	22.0	4.2	5.3	31.5	2.6	0.0	1.8	1.0	5.3	

Conwell St/Cemetery Rd
Provincetown
Clear - 85
08/05/1998

JAMAR Technologies, Inc.
151 Keith Valley Road
Horsham, PA 19044
Traffic Counting Equipment and Supplies

File Name : Conwell
Site Code : 66778899
Start Date :

Groups Printed: Trucks

	Conwell St From North					Not Named From East	Conwell St From South					Cemetery Rd From West					
End Time	Right	Thru	Left	Peds & Bikes	App. Total	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0			1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:45	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
12:00	0	3	0	0	3	0	0	1	0	0	1	1	0	0	0	1	5
Total	0	3	0	0	3	0	0	3	0	0	3	1	0	0	0	1	7
12:15	0	2	0	0	2	0	0	0	1	0	1	1	0	0	0	1	4
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	5	0	0	5	0	0	3	1	0	4	2	0	0	0	2	11
Apprch %	0.0	100.0	0.0	0.0			0.0	75.0	25.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	45.5	0.0	0.0	45.5	0.0	0.0	27.3	9.1	0.0	36.4	18.2	0.0	0.0	0.0	18.2	

Conwell St/Cemetery Rd
Provincetown
Clear - 85
08/05/1998

JAMAR Technologies, Inc.
151 Keith Valley Road
Horsham, PA 19044
Traffic Counting Equipment and Supplies

File Name : Conwell
Site Code : 66778899
Start Date :

Groups Printed: Pedestrians

	Conwell St From North					Not Named From East	Conwell St From South					Cemetery Rd From West					
End Time	Right	Thru	Left	Peds & Bikes	App. Total	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0			1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:45	0	0	0	3	3	0	0	1	0	0	1	0	0	0	0	0	4
12:00	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	1	4	0	3	8	0	0	1	0	0	1	0	0	0	0	0	9
12:15	0	1	0	0	1	0	0	2	0	0	2	0	0	2	0	2	5
12:30	0	0	0	0	0	0	0	3	1	0	4	0	0	1	0	1	5
Grand Total	1	5	0	3	9	0	0	6	1	0	7	0	0	3	0	3	19
Apprch %	11.1	55.6	0.0	33.3			0.0	85.7	14.3	0.0		0.0	0.0	100.0	0.0		
Total %	5.3	26.3	0.0	15.8	47.4	0.0	0.0	31.6	5.3	0.0	36.8	0.0	0.0	15.8	0.0	15.8	

Conwell St/Cemetery Rd
Provincetown
Clear - 85
08/05/1998

AMA Technologies, Inc.
151 Keith Valley Road
Horsham, PA 19044
Traffic Counting Equipment and Supplies

File Name : Conwell
Site Code : 66778899
Start Date :

Groups Printed: Bicyclists

	Conwell St From North					Not Named From East	Conwell St From South					Cemetery Rd From West					
End Time	Right	Thru	Left	Peds & Bikes	App. Total	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Right	Thru	Left	Peds/Bikes	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0			1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:45	4	4	0	0	8	0	0	3	0	0	3	2	0	0	0	2	13
12:00	4	2	0	0	6	0	0	9	2	0	11	0	0	0	0	0	17
Total	8	6	0	0	14	0	0	12	2	0	14	2	0	0	0	2	30
12:15	2	5	0	0	7	0	0	11	0	0	11	0	0	3	0	3	21
12:30	3	7	0	0	10	0	0	7	0	0	7	0	0	4	0	4	21
Grand Total	13	18	0	0	31	0	0	30	2	0	32	2	0	7	0	9	72
Apprch %	41.9	58.1	0.0	0.0			0.0	93.8	6.3	0.0		22.2	0.0	77.8	0.0		
Total %	18.1	25.0	0.0	0.0	43.1	0.0	0.0	41.7	2.8	0.0	44.4	2.8	0.0	9.7	0.0	12.5	

APPENDIX E: DETAILED ACCIDENT DATA TABLE

Table E1: Conwell Street Accident Analysis (1995 to 1997)

Year	Location	Accident Severity		Accident Type		Time of Day		Total Accidents
		Minor	Major	Vehicle	Vehicle/Bike	Day	Night	
Intersections								
1995	Conwell St @ Rt 6		1	1	1	2		2
1995	Conwell St @ Cemetery Rd							0
1995	Conwell St @ Harry Kemp Wy	1		1				0
1995	Conwell St @ Bradford St	3	1	4		4	1	5
	1995 Totals	**4**	**2**	**6**	**1**	**6**	**1**	**7**
1996	Conwell St @ Rt 6	1	1	2		2		2
1996	Conwell St @ Cemetery Rd							0
1996	Conwell St @ Harry Kemp Wy							0
1996	Conwell St @ Bradford St	3		3		3		3
	1996 Totals	**4**	**1**	**5**	**0**	**5**	**0**	**5**
1997	Conwell St @ Rt 6	1	1	2		2		2
1997	Conwell St @ Cemetery Rd							0
1997	Conwell St @ Harry Kemp Wy							0
1997	Conwell St @ Bradford St	1		1		1		1
	1997 Totals	**2**	**1**	**3**	**0**	**3**	**0**	**3**
	1995 - 1997 Intersection Totals	**10**	**4**	**14**	**1**	**14**	**1**	**15**
Roadway Segments								
1995	Rt 6 to Cemetery Rd				1	1		1
1995	Cemetery Rd to Harry Kemp Wy	3		3		3		3
1995	Harry Kemp Wy to Bradford St	1		1		1		1
1995	Unknown				1		1	1
	1995 Totals	**4**	**0**	**4**	**2**	**5**	**1**	**6**
1996	Rt 6 to Cemetery Rd	1		1	1	2		2
1996	Cemetery Rd to Harry Kemp Wy							0
1996	Harry Kemp Wy to Bradford St							0
1996	Unknown							0
	1996 Totals	**1**	**0**	**1**	**1**	**2**	**0**	**2**
1997	Rt 6 to Cemetery Rd				1	1		1
1997	Cemetery Rd to Harry Kemp Wy	1		1			1	1
1997	Harry Kemp Wy to Bradford St							0
1997	Unknown							0
	1997 Totals	**1**	**0**	**1**	**1**	**1**	**1**	**2**
	1995 - 1997 Roadway Totals	**6**	**0**	**6**	**4**	**8**	**2**	**10**
	1995 - 1997 Total All Accidents	**16**	**4**	**20**	**5**	**22**	**3**	**25**

Notes:

- Vehicle "accident severity" as designated by the Provincetown Police Dept. It does not include bicycle accidents.
- Accident Analysis represents reported accidents only.

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