
South Jersey Transportation Planning Organization

2007 Road Safety Audit /scan

**Fire Road (CR 651)
Egg Harbor Township,
Atlantic County**



Prepared By:



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In Association with:



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Introduction

Orth-Rodgers & Associates, Inc. (ORA) was selected by the South Jersey Transportation Planning Organization (SJTPO) to conduct their 2007 Road Safety Audit (RSA) program. The sections of roadway to be studied were selected by SJTPO based on a number of factors considered important to the safety and future development of the roadways. Among the factors considered were crash data, traffic volume growth, recent and planned future development along the roadway, and local cooperation and control. Except at the intersection of a state highway with the study roadway, state highways were excluded from the process. County and local officials cooperated with the SJTPO in identifying roads that meet these parameters.

Four roadway sections were chosen for the 2007 audits. Two of the roadways are located in Cape May County, one is in Salem County, and one in Atlantic County. The four roadway sections are:

1. Fire Road (CR 651), between Tilton Avenue (CR 563) and Delilah Road (MP 7.91-9.97) in the Township of Egg Harbor, Atlantic County. Additionally, a section from Mill Road to Tilton Road (MP 6.67-7.91) is to be scanned.
2. Shunpike Road (CR 620), entire length between Indian Trail Road (CR 618) and Dias Creek Road (CR 612) in the Township of Middle, Cape May County.
3. Dennisville-Petersburg Road (CR 610), entire length between Route 47 and Tuckahoe Road (CR 631) (MP 0.00-7.77), in the Townships of Dennis and Upper, and the Borough of Woodbine, Cape May County.
4. Buck-Centerton Road (CR 553) between the Cumberland County border and the Gloucester County border (MP 26.97-34.78) in the Townships of Pittsgrove and Upper Pittsgrove. This includes a very short section of CR 540 (MP 25.90-25.98). Approximately two miles of the road will be audited and the remainder scanned.

Each studied roadway will have a separate report, but will share basically the same introduction, background section, format and some text.

Safety audits serve to address the safe operation of the roadways and to ensure a high level of safety for all road users. The process of a safety audit is two-fold: 1) to conduct a formal examination of highway features and the surrounding environment that increases the potential for crashes; and, 2) to identify countermeasures that will reduce or eliminate the probability of such crashes. According to the Federal Highway Administration (FHWA), the formal definition of a road safety audit is as follows:

“A Road Safety Audit is the formal examination of an existing or future roadway or traffic project by an independent team of trained specialists.”¹

To accomplish these goals, the audit team assesses the safety performance history, as well as the future crash potential of a roadway and prepares a report that documents the safety deficiencies and appropriate countermeasures. The purpose of the 2007 audit is to identify potential safety deficiencies along the selected sections of the four roadways.

There are three primary parts of the audit: 1) the data collection and analysis phase; 2) the field view (conducted by the team); and, 3) the preparation of the report and findings.

The **data collection phase** is performed prior to the audit team conducting a field view of the entire roadway. The data is intended to assist the team in identifying potential safety issues, as well as to provide a factual and historic component of the study. Traffic count and crash data are collected, and a capacity analysis of major intersections is performed. The traffic counts are used to assist in analyzing solutions for the intersections, as well as aid in identifying the most congested sections of the roads. The crash data assists the team in identifying specific areas and/or conditions that warrant close scrutiny that might have otherwise been overlooked. The capacity analysis of intersections identifies how well the intersections are operating and when

¹ Federal Highway Administration, Road Safety Audits and Road Safety Audit Reviews, EDL #12345 FHWA XX-03-999

and where improvements may be needed. Based on an analysis of all the data, the audit team can conduct a productive and comprehensive evaluation of the roads being studied. A multi-disciplinary team conducts the field view. In this case, the team walked the entire length of the study area being audited (Delilah Road to Tilton Road) and drove the section being scanned several times (Tilton Road to Mill Road), discussing observations and taking notes for inclusion in the report. The team leader then prepared a **draft report** that documented the audits findings and recommended actions. The draft report was distributed to the team members for their review and comments. A final report was then prepared by the team leader incorporating the agreed upon draft report comments.

BACKGROUND INFORMATION

Prior to the audit, ORA e-mailed John Masi of the Atlantic County Engineer's office a list of questions seeking background information on the selected of Fire Road. The questions included.

- Why was the road chosen for the audit?
- What problems exist on the road?
- What areas should be given special attention?
- Has the roadway changed in the last three years?
- Are there any projects pending or anticipated for the roadway and their status?
- Have any of the traffic control devices or regulations been changed in the last three years (i.e., signals, speed limits, etc.)?
- Was there any development on the road in the last three years, or any proposed development on the road or in the area that has or will impact traffic in the future?
- Are any recent traffic counts available?
- Have any recent traffic studies been conducted on the road?
- What plans, if any, are available for the road?
- At what locations should new traffic counts, either turning movement or ATR's be conducted?

Mr. Masi responded in a letter dated September 6, 2006, providing answers to the questions asked. The same questions were again asked at the workshop on the day of the audit to ensure

that no available data was missing and Mr. Masi's letter was shared with the team. Since Atlantic County had already participated in the 2005 and 2006 audits, ORA did not schedule a general kick-off meeting. Additionally, a pre-audit information package was prepared and distributed in advance of the workshop and field view. The package included a brief explanation of what a safety audit is, why safety audits are conducted, and the process involved. It also included charts of three-year crash trends, crash occurrence by month, by day of the week, by time of day, by surface condition, by light condition, by crash severity, by crash type, and by closest intersection. All team members were asked to review the information package prior to attending the workshop and audit. Also, prior to the audit, ORA had contacted the Egg Harbor Township Police Department to explain the purposes and process involved in the audit. Since most of the scheduled team members had already participated in the FY 2005 or FY 2006 audit, and all stakeholders received the information package, the workshop and field views were scheduled to take place on the same day.

FIRE ROAD (CR 651)

Fire Road (CR 651) is under the jurisdictional control of Atlantic County. It is designated as a south-north road. The section being audited extends between Tilton Road (CR 634) on the southern end of the study area and Delilah Road (CR 646) at the northern end of the study area. The section being scanned extends from Mill Road on the southern end to Tilton Road on the northern end. The total length of the study area is 3.3 miles. The road is classified as an urban minor arterial.

Fire Road cross section varies along its length.

- Approaching Delilah Road from the north and proceeding southbound, it is one lane in each direction flared to three lanes at the intersection of Delilah Road with an exclusive left-turn lane and shared through and right-turn lanes in each direction.
- Between Delilah Road and Doughty Road, it is basically a three-lane road with one lane of traffic in each direction and a two-way center left-turn lane.
- Approaching Doughty Road, it again transitions to an exclusive single direction left-turn lane and a shared through and right-turn lane in each direction.
- Between Doughty Road and Washington Avenue, it is basically one lane in each direction. At Washington Avenue, southbound traffic is restricted to a single lane of traffic, but northbound traffic has an exclusive left-turn lane and a shared through and right-turn lane.
- Between Washington Avenue to north of Route 40/322, it is basically a three-lane road with one lane of traffic in each direction and a two-way center left-turn lane.
- From north of Route 40/322 to Tilton Road, it is basically a five-lane road with a two-way left turn or single direction left-turn lane, an exclusive through lane and a shared through and right-turn lane.

- Northbound at Tilton Road there are two exclusive left-turn lanes, an exclusive through lane and a shared through and right-turn lane.
- From Tilton Road to north of Hingston Road, it is basically a five-lane road with a two-way left turn or single direction left-turn lane, an exclusive through lane and a shared through and right-turn lane. The exceptions are southbound right-turn lanes at the driveways to Canal's Liquors and Fire Plaza.
- From that point south to Mill Road, it is basically a three-lane road with either a two-way or single direction left-turn lane and one shared through and right-turn lane in each direction.

The curb line development between Delilah Road to south of Washington Avenue is best described as mixed rural residential-business; the section from south of Washington Avenue to south of the Hingston Avenue is more densely developed and mostly business in nature, becoming very densely developed from north of Tilton Road to the GSP traffic signal. From the GSP traffic signal to Mill Road the curb line development is less densely developed and remains mostly business orientated.

The Fire Road Plaza is the only major traffic generator along the study section of road. The proposed Wal-Mart development, if constructed, would be another significant generator.

There are seven signalized intersections in the study area, at Delilah Road, at Doughty Road, at Washington Avenue, at Tilton Road, at Fire Road Plaza, at GSP, and at Mill Road. Because the intersections of Tilton Road and Delilah Road were evaluated in prior audits of crossing routes, these intersections were excluded from this audit.

It was ascertained from local members of the audit team that:

- The roadway was chosen to be audited due to the volume of traffic utilizing the road, lack of pedestrian facilities, and the frequency of crashes along the road.
- There have been no geometric changes along the road in the last three years.

- The Mill Road intersection is scheduled for both short term and long term improvements. The Mill Road eastbound approach was recently reconstructed (December 2006) as a short term improvement and signal phasing changes implemented. A major re-design of the intersection is planned as a long term improvement.
- A Wal-Mart is proposed along the northbound side of Fire Road between Old Egg Harbor Road and Route 40/322. In conjunction with the Wal-Mart development, a traffic signal would be installed at the intersection of Old Egg Harbor Road.
- The same Wal-Mart development may require the developer to make improvements at the Route 40/322 signalized intersection.
- The NJDOT's Safe Corridor Team is evaluating the intersection of Route 40/322 and Fire Road.
- A Renaissance Inn is also proposed on the southeast quadrant of Fire Road with Old Egg Harbor Road.

The following sections describe the various tasks undertaken by ORA in partnership with the Safety Audit Team and summarize the findings from the audit process in a manner that will allow the responsible agencies and personnel to prioritize implementation of safety enhancements.

Pre-Audit Data Collection and Analysis

Prior to the audit activities on site, ORA collected and reviewed traffic data and other related materials in order to assist the team in conducting the audit. A description of the materials that were reviewed is provided below.

1. Straight Line Plan

Straight line plans, 1"=200', were developed of the study section of the road. The crash data was shown on these plans for use at the audit and for the final report.

2. Traffic Volume Data

The County requested that an eight-hour traffic count be conducted at the Hingston Avenue and Old Egg Harbor Road intersections. A-Tech Engineering conducted the counts on October 12, 2006 and October 25, 2006.

3. Traffic Signal

The County submitted traffic signal plans for all of the signals along the section of road being audited. The plans were reviewed for conformance with the current MUTCD.

4. Crash Data

SJTPO forwarded to ORA the crash reports from the Egg Harbor Township Police Department for the years 2003, 2004, and 2005. A summary sheet was prepared for the three-year period. For the three-year period, a total of 74 crashes were plotted on the straight-line plan for the study section of road. Sixteen (16) crashes occurred in 2003, 37 in 2004, and 21 in 2005.

The types of crashes are characterized as follows:

0 – fatal crashes

14 – injury crashes

60 – non-injury crashes

13 – right-angle type crashes – five (5) at Old Egg Harbor Road, two (2) at Washington Avenue, and two (2) at the driveway to Motion Enterprise. There were no other concentrations.

38 – same-direction type crashes – fourteen (14) at Washington Avenue, 12 at Route US 40/322, five (5) at Doughty Road, and two (2) at Roosevelt Avenue. There were no other concentrations.

7 – left-turn type crashes – Three (3) at Old Egg Harbor Road and two (2) at Doughty Road. There were no other concentrations.

5 – side-swipe type crashes – There were no concentrations.

2 – fixed-object type crashes – There were no concentrations.

8 – other type crashes

1 - Pedestrian crash – highway worker in work zone.

A review of the crashes established the following:

- ♦ The critical months for crashes were April and October.
- ♦ The highest frequency of crashes occurred on Fridays.
- ♦ The highest frequency of crashes occurred between 5:00 PM and 6:00 PM.
- ♦ The percentage of crashes during hours of darkness (13%) is much less than the statewide average for county roads (approximately 30%).
- ♦ The percentage of crashes for wet surface conditions (26%) is consistent with the statewide average for county roads (approximately 24%). The percentage of crashes

with snowy or icy surface conditions (5%) is consistent with the statewide average for county roads (approximately 5%).

- ♦ The percentage of crashes with injuries (19%) is lower than the statewide average for county roads (approximately 30%).
- ♦ The percentage of right-angle type crashes (17%) is consistent with the statewide average for county roads (approximately 21%).
- ♦ The percentage of same directional crashes (51%) is higher than the statewide average for county roads (approximately 29%).
- ♦ The percentage of left-turn crashes (9%) is higher than the statewide average for county roads (approximately 6%).
- ♦ The percentage of side-swipe type crashes (7%) is less than the statewide average for county roads (approximately 12%).
- ♦ The percentage of fixed-object type crashes (3%) is less than the statewide average for county roads (approximately 12%).
- ♦ The percentage of bicycle type crashes (0%) is less than the statewide average for county roads (approximately 1%).

5. Other Information

Additional materials reviewed by ORA prior to the formal audit process included videotapes taken by A-TECH Engineering, Inc. of both directions of travel for the entire study area.

Materials listed above are included in the Appendix.

Audit

On October 12, 2006, the Safety Audit Team met in the Atlantic County's Engineer's Office to formally conduct the audit. The meeting commenced at 9:00 AM with brief statements by ORA representatives who reiterated the importance of RSAs and outlined the objectives of the safety audit. There were brief introductions by team members followed by an extensive review and discussion of materials described in the previous section. The team then drove to the Delilah Road intersection to begin the audit. Atlantic County provided a van for the team. Team members are listed below.

SAFETY AUDIT TEAM FOR JIMMIE LEEDS ROAD

Name	Agency
Raymond Reeve	Office of Highway Safety
Edward Newman	Atlantic County Engineering
John Masi	Atlantic County Engineering
Albert N. Maiorano	Egg Harbor Township Police Department
Timothy Chelius	SJTPO
Karen Yunk	FHWA
Norman Deitch	Orth-Rodgers & Associates, Inc.
George Strathern	Orth-Rodgers & Associates, Inc.

The team began at Delilah Road and walked south to Tilton Avenue before breaking for lunch. After lunch, the team scanned the section of road between Mill Road and Tilton Road.

During the field views, team members identified features on the roadway and its surrounding environment that could contribute to the occurrence or relative severity of roadway crashes. At the intersections and mid-block locations, the Audit Team identified safety deficiencies and inappropriate traffic signs, as well as other items that were felt to be inconsistent with effective road function and use. A variety of safety improvement measures were discussed with field notes and digital photographs being taken by team members.

At the completion of the audit, the team leader recapped the findings of the audit with the team.

The team leader informed the team members on the next step in the audit process; ORA will prepare a draft report summarizing the findings from the audit process and forward the report to all team members for their review and comments.

Approximately two weeks after the daytime audit, John Masi, Norm Deitch and George Strathern conducted a night audit. The goal was to check the retroreflectivity of the street signs, pavement marking, and condition of the raised pavement markers (RPMs). In addition, the need for street lighting was checked and lights adjacent to the roadway on private property were checked to ensure that they did not create bright areas that could distract drivers. The team also looked for issues that would only be apparent during hours of darkness, such as clearly defined roadway alignment, signal indication visibility conflicts, ineffective street lighting, etc.

The next section of the report summarizes the findings from the daytime and nighttime audits of Fire Road (CR651), as well as the scanned section between Tilton Avenue and Mill Road.

Findings

The findings from the Fire Road (CR 651) safety audit are presented on the following pages in the approximate order of their location along the roadway beginning at Delilah Road and traveling south to Mill Road.

SAFETY ISSUE		REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
1	General comment - Sign installation. Many of the signs along the road are installed as “bendaway” rather than “breakaway.” Many installed as “breakaway” are installed incorrectly with the stub too far out of the ground or on the wrong side of the post.	Consideration should be given to inventorying the method of sign installation along the entire road and taking steps to properly install all signs as “breakaway” in accordance with the most current NJDOT standards and the MUTCD.		X			X	
2	Southbound side approximately 300 feet south of RT US 40-322 - Speed limit 40 MPH sign worn.	Replace with new sign.	X			X		
3	Northbound side approximately 300 feet south of Rt 40-322 - Truck route sign assembly worn.	Replace with new sign assembly.	X			X		
4	Southbound side opposite Adams Road - guide rail on both sides of driveway. Need for guide rail is questionable and the end treatments are not to current standards.	The need for the guide rail should be evaluated and, if retained, end treatments should be upgraded to current standards.		X			X	
5	Northbound side approximately 300 feet north of Doughty Road - driveway to industrial complex has center median. Needs “KEEP RIGHT” sign on end of the median.	Install “KEEP RIGHT” sign.	X			X		

SAFETY ISSUE		REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
6	<p>Traffic signal at Doughty Road intersection:</p> <ul style="list-style-type: none"> • northeast corner - no handicapped ramps • southeast corner - triangular island forms right turn slot that is yield controlled. Suggested by team member that "YIELD BAR" be painted across the ramp. Also, there are no handicapped ramps on either the island or the corner radius. • Northwest corner - triangular island forms right turn slot that is yield controlled. Suggested by team member that "YIELD BAR" be painted across the ramp. There are no handicapped ramps on the island. 	<ul style="list-style-type: none"> • Consideration should be given to installing the missing handicapped ramps at the intersection. • Consideration should be given to the installation of YIELD BARS across the right turn ramps. 		X		X		
7	Traffic signals at Doughty Road intersection - lettering on mast arm signs appear small.	The size of the letters on the mast arm signs should be checked. If they are found to be smaller than 8" C consideration should be given to replacing the signs.	X			X		
8	Both sides of roadway at Atlantic Avenue and at ACE - guide rail appears too low and end treatments are not to current standards.	Consideration should be given to upgrading guide rail to current standards.			X			X
9	Southbound side at Atlantic Avenue - inlet cover is not bicycle safe.	Consideration should be given to replacing existing inlet cover with bicycle safe cover.	X			X		
10	Northbound side north of ACE - fire hydrant located in opening in guide rail. Team members stated that the opening could be eliminated if hydrant was raised to be higher than guide rail.	Consideration should be given to raising height of hydrant to eliminate opening.		X			X	

SAFETY ISSUE		REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
11	Both sides of road just north of ACE - inlet covers that are not bicycle safe.	Consideration should be given to replacing existing inlet covers with bicycle safe covers.	X			X		
12	Both sides of road just south of ACE - inlet covers that are not bicycle safe.	Consideration should be given to replacing existing inlet covers with bicycle safe covers.	X			X		
13	Both sides of road approximately 200 south of ACE - inlet covers that are not bicycle safe.	Consideration should be given to replacing existing inlet covers with bicycle safe covers.	X			X		
14	Both sides of roadway south of ACE - guide rail appear too low and end treatments not to current standards.	Consideration should be given to upgrading guide rail to current standards.			X			X
15	Columbus Avenue northeast corner - vehicles parked on grass area on corner within the sight triangular.	Contact property owner to terminate this practice.	X				X	
16	Washington Avenue - At pre-audit meeting, it was noted that signal operated on fixed time with an electrical-mechanical controller. Installation has no junction boxes and only 1.5-inch conduit. Therefore, existing signal not easily upgraded. There are plans for major improvements to intersection. Consultant preparing plans. Construction over a year away.	Consideration should be given to making those improvements eligible to be funded through this program.			X			X
17	Washington Avenue intersection - It was noted by local team members that at certain times of the day the intersection suffers excessive delays. And that eliminating some of the right turn on red restrictions at the intersection may improve its operation. Of particular note was the eastbound right turn on red prohibition.	The right turn on red restrictions at the intersection should be evaluated and those judged to be overly restricted be removed.	X				X	
18	Washington Avenue northeast corner - pilings and metal poles paralleling the radius on the corner.	If these obstacles are within the ROW, they should be removed.	X				X	

SAFETY ISSUE		REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
19	Northwest and southwest corners - signal base covers are missing exposing wiring.	Install missing signal base covers.	X			X		
20	Southbound side approximately 200 feet south of Washington Avenue - Speed limit 40 MPH sign is worn.	Replace with new sign	X			X		
21	Two-way left-turn lane between Washington Avenue and railroad grade crossing lacks painted left turn arrows in the lane.	Install painted left turn arrows in this section of the two-way left-turn lane.	X			X		
22	Railroad Grade Crossing just south of Roosevelt Avenue - Grade crossing just re-done. NJDOT's Bureau of Railroad and Safety to return to evaluate traffic protection at the crossing. Cross bucks installed on right side of road only, cross bucks are worn and one on southbound side of road obstructed by utility pole.	Pass these observations along to NJDOT's Bureau of Railroad and Safety.	X				X	
23	Two-way left-turn lane between railroad grade crossing and RT 40/322 lacks painted left turn arrows in the lane.	Install painted left turn arrows in this section of the two-way left turn lane.	X			X		
24	Southbound side north of RT 40/322- two-way left-turn lane becomes southbound left-turn lane - no signs indicating change.	Install appropriate additional signing indicating southbound left-turn lane.	X			X		
25	Southbound side approximately 600 feet north of Rt US 40/322 - route marker assembly "JCT 40/322" is worn.	Replace sign assembly.	X			X		
26	Intersection of RT US 40/322 - Safe corridor team is evaluating this intersection. Therefore, intersection not evaluated.							
27	Cape Savings Bank on southwest corner of RT 40/322 - guide rail parallel to curb between curb and bank's parking lot.	If guide rail is within ROW, consideration should be given to its removal.		X			X	
28	Southbound side south of RT US 40/322 - confirming route marker assembly "SOUTH 651"- south plate is worn.	Replace worn plate.	X			X		

SAFETY ISSUE		REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
29	Southbound side north of Old Egg Harbor Road - there is on the right side of the road "CENTER LANE FOR LEFT TURN ONLY" with a 45 degree arrow. This sign is intended for use on center median of roads not on right side of road.	Replace sign with standard lane use control sign.	X			X		
30	Two-way, left-turn lane between RT 40/322 and Old Egg Harbor Road lacks painted left turn arrows in the lane.	Install painted left turn arrows in this section of the two-way left-turn lane.	X			X		
31	Southbound side approximately 150 feet north of Old Egg Harbor Road - Speed limit 40 MPH sign is worn.	Replace with new sign.	X			X		
32	Southbound side just north of CR 687 route marker assembly "687" with a horizontal arrow to the left is worn.	Replace sign assembly.	X			X		
33	Southwest corner of Old Egg Harbor Road - inlet cover not bicycle safe.	Consideration should be given to replacing existing inlet cover with bicycle safe cover.	X			X		
34	Northbound side north of Old Egg Harbor Road - Speed limit 40 MPH sign is worn.	Replace with new sign.	X			X		
35	Northbound side south of Old Egg Harbor Road - "JCT 40/322" route marker assembly is worn.	Replace with new sign assembly.	X			X		
36	Both sides of road between Tilton Road and Rt 40/322 - paths worn indicating pedestrian traffic, some pedestrians observed during field view. No sidewalks along this section of road.	Consideration should be given to upgrading pedestrian facilities.			X			X
37	Southbound north of the GSP intersection - existing lane ends symbol sign. Right lane does not end until well after the GSP intersection.	Remove sign.	X			X		
38	Along both directions of travel at the GSP intersection, there are guide signs for the GSP with arrows at 45 degrees. Should be horizontal arrows.	Consideration should be given to replacing signs with signs that have horizontal arrows.	X				X	

	SAFETY ISSUE	REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
39	Hingston Road - quite a bit of time was spent at the intersection. Traffic count was ordered but not yet received at the time of the audit. Crash data was ordered as a result of field observations made during the Scan portion of this study. Because the crash data was ordered and received after the audit, it was not included in the crash summary for the road but was plotted separately and is described here. For the three-year period including 2004, 2005 through October of 2006, there was a total of nine crashes at the intersection. Four right-angle type crashes, one same direction type crash, one fixed-object type crash and three crashes involving vehicles turning left from Fire Road striking vehicles waiting at the stop line on Hingston Road. The traffic count taken at the intersection showed that the Hingston Road approach experienced a peak hour volume of 286 vehicles with an average hourly volume of 249 vehicles. Two-way traffic on Fire Road averaged 1432 vehicles/hour for the same 8-hour period. The intersection easily exceeds Warrant 1 of the MUTCD for signalization. While meeting a warrant alone is not a reason to signalize an intersection, the operational conditions observed at the intersection during the audit also suggest that the intersection should be considered for signalization.	Consideration should be given to installing a traffic signal at the intersection and re-aligning the driveway to the Bon-Ton Plaza opposite Hingston Road to be included in the signalization. An alternative would be to re-align the road opposite the driveway or some combination of re-aligning both the driveway and the road.			X			X
40	Northbound approaching Mill Road – “SIGNAL AHEAD” sign is worn and too close to the intersection.	Install new sign farther from the intersection.	X			X		

SAFETY ISSUE	REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
		LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
41	Mill Road - signal head installed on mast arm on far left facing northbound traffic.		X			X	
NIGHTTIME FIELD VIEW IDENTIFIED THE FOLLOWING SAFETY ISSUES							
42	Intersection of GSP – Traffic signal display is not in conformance with current MUTCD. GSP ramp and driveway opposite GSP ramp have exclusive phases, but lack left turn green arrows now required for this type of signal phasing.		X		X		
43	Mill Road intersection - near left signal facing the Mill Road eastbound is visible to northbound Fire Road traffic.	X				X	
44	RPM on road are in very poor condition.			X			X
45	Northbound north of Tilton Road - confirming route marker assembly "NORTH 651"- north plate is worn.	X			X		
46	Washington Ave northwest corner - street luminaire burned out.	X			X		
47	Southbound at ACE "BRIDGE FREEZES BEFORE ROAD SURFACE" warning sign is worn.	X			X		
48	Washington Avenue southbound - signals at intersection appear duller than normal.	X				X	
49	Southbound side at Old Egg Harbor Road - luminaire burned out.	X			X		

SAFETY ISSUE		REMEDIAL ACTION	LEVEL OF EFFORT REQUIRED			POTENTIAL SAFETY BENEFIT		
			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
50	Southbound approaching Tilton Road - YIELD sign on left side of U and left-turn ramp is twisted so that it is clearly visible to Fire Road traffic.	Reinstall sign.	X				X	

Recommendations

As stated earlier, the intent of the road safety audit process is to conduct a formal examination of highway features and the surrounding environment that increase the potential for crashes and identify countermeasures that will reduce (or eliminate) the probability of such crashes. The safety issues identified during the conduct of this audit and included in this report have been organized to provide the convenience and flexibility necessary to allow the implementation of the safety improvements as time and budget limitations allow. To the extent possible, the findings have been separated into line items so that the improvements can be implemented independently as appropriate. Clearly, consolidating a number of the safety recommendations will reduce the overall cost of improvements. We recommend that the appropriate management staff review the findings and decide which items can be completed in the immediate future (within one year). Many of the deficiencies can be corrected in the short term if the roadway owners dedicate both the time and financial resources to the task. The Level of Effort (an estimate of expenditures and man hours) indicated on the finding sheets of the report represent the team's best effort at categorizing each item.

The findings of the report with the greatest potential for reducing the crash experience along the road and the potential for future crashes are item #39 the installation of a traffic signal at Hingston Road, # 36 the installation of missing section of sidewalk between Tilton Road and Rt 40/322, and item #45 the installation of new RPMs along the road. We acknowledge that these recommendations do not readily correlate with the crash experience along the road, but recall that one of the purposes of the audit is to identify potential safety problems; and that the crash experience, while a very important tool of the team, is not the only tool to be used by the team in identifying potential problems. The team members experience in the traffic safety arena, whether it be enforcement, design, maintenance or operation, are often equally important in identifying potential safety problems.

Those improvements discussed in the body of the report, which are scheduled and planned by the County, will also contribute to the safety of the road and those which may qualify for short term, quick fix funding should also be considered. Unfortunately, it is doubtful that the improvements to the Washington Avenue intersection will fit the criteria of a quick fix, low cost improvement.

As evidenced by the over representation of same directional type crashes, much of the crash experience on the road is probably congestion related. The crash experience at five of the seven traffic signals (end points Tilton and Delilah Roads excluded) along the audited portion of the road is included in the summary. As expected the signalized intersections are points of concentration for same directional type crashes.

Unfortunately, with many roads and many of the audits we have conducted, there is no easy quick fix solution to many of the crash patterns.

While the safety audit focuses on roadway features, enforcement is still a crucial component of safety on a road. Enforcement discourages the motorist from becoming lax in obeying or observing the traffic regulations along the road. Just as resources must be allocated to the physical improvements of the road, they must also be allocated to enforcement to maintain the safe operation of the road.

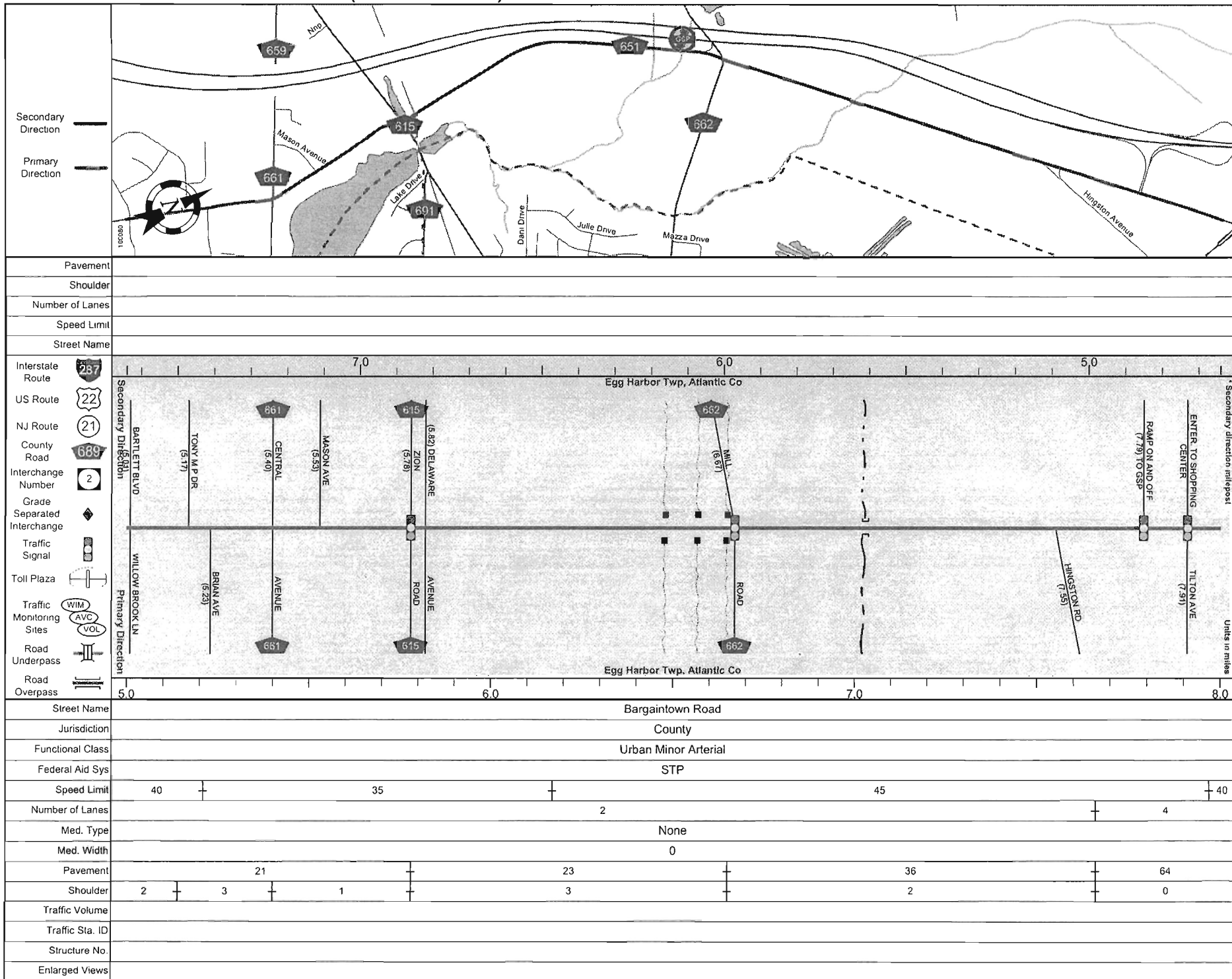
The opinions found in the findings of this Safety Audit report are those of the Safety Audit Team, as a whole, and not necessarily the opinions of the SJTPO or the individual team members.

Appendix

- Straight line diagram of Fire Road
- Straight-line plan on which are plotted crashes
- 8.5" X 11" crash diagram of the Hingston Road intersection.
- Traffic counts
- Crash Summary Sheet
- Crash Data Charts
- Photographs

ATLANTIC COUNTY 651 (South to North)

Mile Posts: 5.000 - 8.000

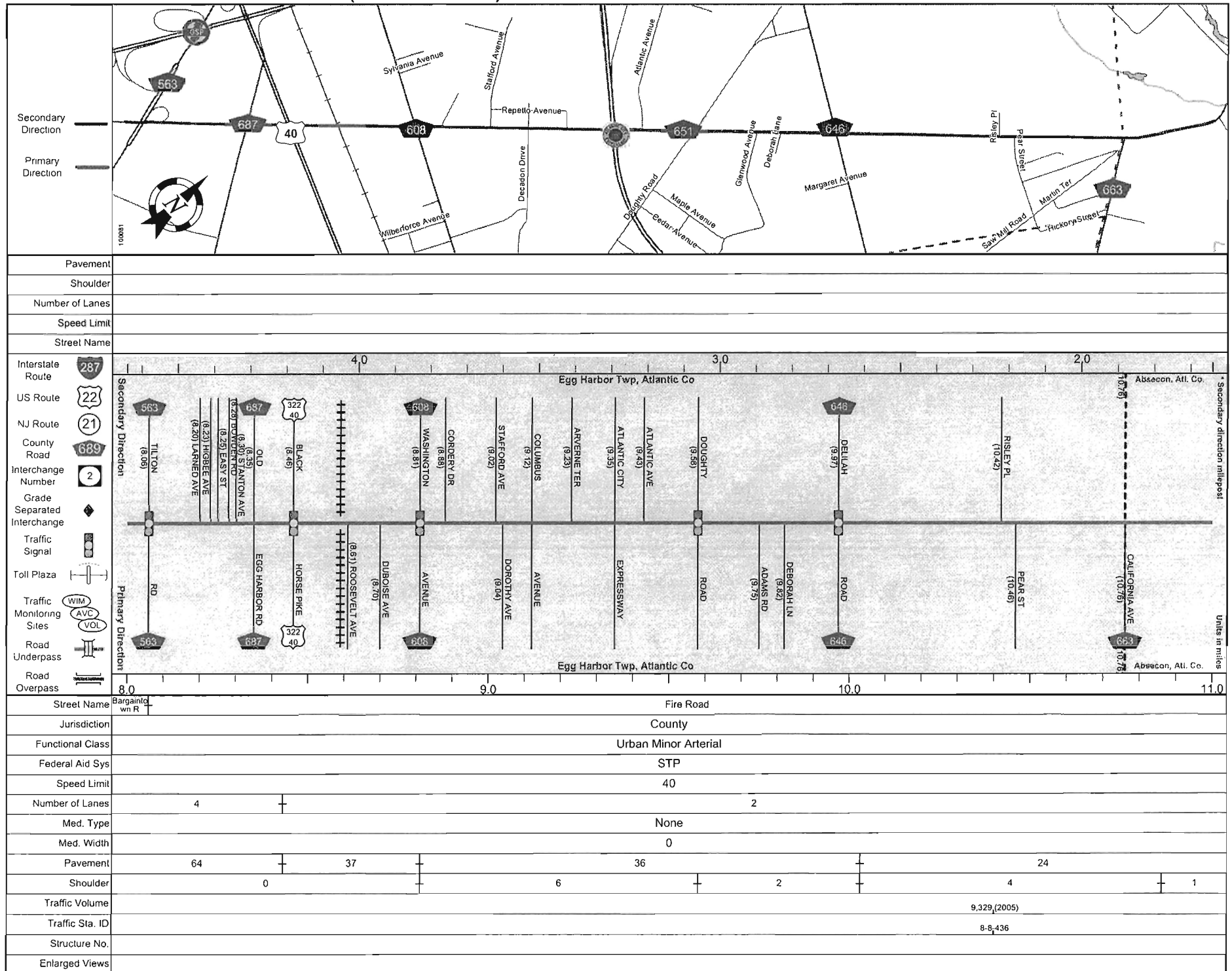


SRI = 01000651

Date last inventoried: August 2001

ATLANTIC COUNTY 651 (South to North)

Mile Posts: 8.000 - 11.000



SRI = 01000651__

Date last inventoried: August 2001

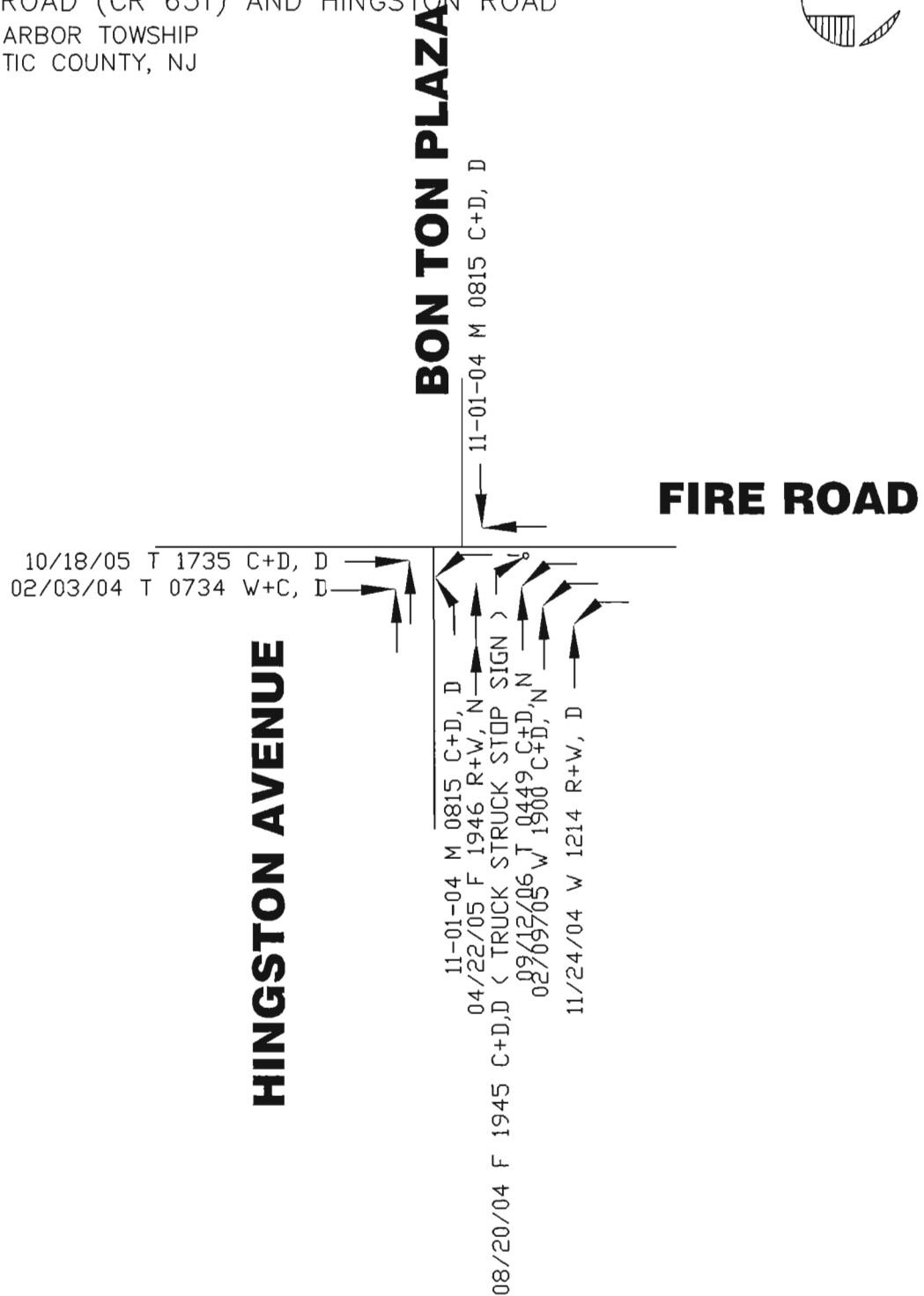
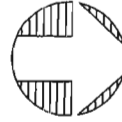


Orth - Rodgers and Associates, Inc.

TRANSPORTATION ENGINEERS and PLANNERS

2003-2006 CRASH DIAGRAM

FIRE ROAD (CR 651) AND HINGSTON ROAD
EGG HARBOR TOWNSHIP
ATLANTIC COUNTY, NJ

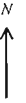


NEW JERSEY DEPARTMENT OF TRANSPORTATION TRAFFIC COUNT SUMMARY

Total Counts
 PROJECT NO. #6
 ROUTE / m.p.: CR 651 / 8.35
 ROUTE / m.p.: CR 687 / 0.17
 MUNICIPALITY: Egg Harbor Twp
 COUNTY: Atlantic
 DATE(S): 10/25/06
 DAY OF WEEK: Wednesday
 TIME(S): 10am - 8pm
 WEATHER: Clear
 COMMENT:

SRI NO:
 N-S STREET: Fire Road
 E-W STREET: Old Egg Harbor Road
 MUN. CODE: 08
 CO. CODE: 01
 COUNTED FOR: NJDOT
 PERSON: A-TECH Engineering Inc
 COUNTED BY: KD/MM
 ENUMER:

To: US 40/322 Black Horse Pike
 Fire Road
 To: Hingston Avenue
 Old Egg Harbor Road
 To: Old Egg Harbor F
 Price Avenue
 Fire Road
 To: Stanton Avenue



TIME PERIOD	Fire Road				APPROACH TOTAL	Fire Road				APPROACH TOTAL	Old Egg Harbor Road				APPROACH TOTAL	Old Egg Harbor Road				APPROACH TOTAL	GRAND TOTAL
	U	LT	TH	RT		U	LT	TH	RT		U	LT	TH	RT		U	LT	TH	RT		
6:00-6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15-6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30-6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45-7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	83	4	87	0	19	83	0	102	0	0	3	0	3	0	1	0	32	33	225
10:15-10:30	0	0	126	7	133	0	16	80	0	96	0	0	2	2	4	0	2	0	22	24	257
10:30-10:45	0	0	154	8	162	0	24	109	0	133	0	0	3	3	6	0	2	0	28	30	331
10:45-11:00	0	0	129	12	141	0	17	109	0	126	0	0	0	4	4	0	1	0	43	44	315
HOURLY TOTAL	0	0	492	31	523	0	76	381	0	457	0	0	8	9	17	0	6	0	125	131	1128
11:00-11:15	0	0	179	14	193	1	31	159	0	191	0	0	3	1	4	0	1	0	42	43	431
11:15-11:30	0	0	92	2	94	0	16	89	0	105	0	0	0	6	6	0	3	0	29	32	237
11:30-11:45	0	0	164	3	172	0	11	123	0	134	0	0	1	1	2	0	2	0	39	41	349
11:45-12:00	0	0	136	14	150	0	43	138	0	181	0	0	0	2	2	0	2	0	43	45	378
HOURLY TOTAL	0	0	571	38	609	1	101	509	0	611	0	0	4	10	14	0	8	0	153	161	1395
12:00-12:15	0	0	132	12	144	0	27	176	0	203	0	1	3	10	14	0	2	0	26	28	389
12:15-12:30	0	0	149	21	170	0	38	125	0	163	1	1	1	3	6	0	1	0	65	66	405
12:30-12:45	0	0	193	12	205	0	34	174	0	208	0	0	1	6	7	0	1	0	60	61	481
12:45-1:00	0	0	209	11	220	0	37	212	0	249	0	0	4	5	9	0	1	0	68	69	547
HOURLY TOTAL	0	0	683	56	739	0	136	687	0	823	1	2	9	24	36	0	5	0	219	224	1822
1:00-1:15	0	0	136	6	142	0	27	132	0	159	0	0	3	5	8	0	1	0	31	32	341
1:15-1:30	0	0	142	11	153	0	20	122	0	142	0	0	5	2	7	0	3	0	33	36	338
1:30-1:45	0	0	169	8	177	0	37	153	0	190	0	0	4	10	14	0	1	0	49	50	431
1:45-2:00	0	0	143	14	157	0	36	157	0	193	0	0	2	5	7	0	2	0	52	54	411
HOURLY TOTAL	0	0	590	39	629	0	120	564	0	684	0	0	14	22	36	0	7	0	165	172	1521
2:00-2:15	0	0	166	8	174	0	44	148	0	192	0	0	3	12	15	0	2	0	40	42	423
2:15-2:30	0	0	162	15	177	0	39	153	0	192	0	1	0	3	4	0	0	0	24	24	397
2:30-2:45	0	0	150	10	160	2	33	153	0	188	0	0	1	7	8	0	1	0	38	39	395
2:45-3:00	0	0	163	8	171	0	29	128	0	157	0	0	3	5	8	0	0	0	36	36	372
HOURLY TOTAL	0	0	641	41	682	2	145	582	0	729	0	1	7	27	35	0	3	0	138	141	1587
3:00-3:15	0	0	178	15	193	0	27	143	0	170	0	0	3	10	13	0	5	0	66	71	447
3:15-3:30	0	0	168	13	181	0	52	114	0	166	0	2	3	7	12	0	3	0	47	50	409
3:30-3:45	0	0	185	18	203	0	54	213	0	267	0	0	4	7	11	0	1	0	44	45	526
3:45-4:00	0	0	189	18	207	0	69	188	0	257	0	0	1	4	5	0	1	0	68	69	538
HOURLY TOTAL	0	0	720	64	784	0	202	658	0	860	0	2	11	28	41	0	10	0	225	235	1920
4:00-4:15	0	0	282	14	296	0	52	239	0	291	0	0	1	5	6	0	3	0	123	126	719
4:15-4:30	0	0	161	10	171	0	31	144	0	175	0	0	0	6	6	0	2	0	47	49	401
4:30-4:45	0	0	167	7	174	0	33	138	0	171	0	0	3	6	9	0	4	0	54	58	412
4:45-5:00	0	0	162	11	173	0	32	185	0	217	0	0	1	7	8	0	0	0	44	44	442
HOURLY TOTAL	0	0	772	42	814	0	148	706	0	854	0	0	5	24	29	0	9	0	268	277	1974
5:00-5:15	1	0	252	29	282	0	60	218	0	278	0	0	7	12	19	0	3	0	74	77	656
5:15-5:30	1	0	258	9	268	0	43	226	0	269	0	0	2	8	10	0	3	0	72	75	622
5:30-5:45	0	0	165	17	202	0	72	217	0	289	0	0	2	7	9	0	6	0	67	73	573
5:45-6:00	0	0	251	23	274	0	51	177	0	228	0	1	3	4	8	0	2	0	73	75	585
HOURLY TOTAL	2	0	946	78	1026	0	226	838	0	1064	0	1	14	31	46	0	14	0	286	300	2436
6:00-6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15-6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30-6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45-7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

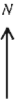
NEW JERSEY DEPARTMENT OF TRANSPORTATION TRAFFIC COUNT SUMMARY

Total Counts

PROJECT NO: #5
 ROUTE / i.m.p.: CR 651 / 7.55
 ROUTE / i.m.p.:
 MUNICIPALITY: Egg Harbor Twp
 COUNTY: Atlantic
 DATE(S): 10/12/06
 DAY OF WEEK: Thursday
 TIME(S): 10am - 6pm
 WEATHER: Clear
 COMMENT:

SRI NO:
 N-S STREET: Fire Road
 E-W STREET: Hingson Avenue
 MUN CODE: 08
 CO. CODE: 01
 COUNTED FOR: NJDOT
 PERSON:
 COUNTED BY: A-TECH Engineering Inc
 ENUMER.: AR, CP
 TEMP:

To Tilton Avenue
 Fire Road
 +
 To Heather Drive
 Hingson Avenue
 Fire Road
 To CR 662 Mill Road



TIME PERIOD	Fire Road				APPROACH TOTAL	Fire Road				APPROACH TOTAL	Hingson Avenue				APPROACH TOTAL	GRAND TOTAL
	U	LT	TH	RT		U	LT	TH	RT		U	LT	TH	RT		
6:00-6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15-6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30-6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45-7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	108	43	151	0	4	69	0	73	0	0	0	15	25	249
10:15-10:30	0	0	155	53	208	0	8	116	0	124	0	0	0	20	51	383
10:30-10:45	0	0	134	40	174	0	4	122	0	126	0	0	0	18	45	345
10:45-11:00	0	0	142	47	189	0	2	137	0	139	0	0	0	19	55	383
HOURLY TOTAL	0	0	539	183	722	0	18	444	0	462	0	0	104	72	176	1360
11:00-11:15	0	0	155	26	181	0	3	113	0	116	0	0	0	20	56	353
11:15-11:30	0	0	175	51	226	0	4	127	0	131	0	0	0	19	62	419
11:30-11:45	0	0	142	43	185	0	7	116	0	123	0	0	0	24	58	366
11:45-12:00	0	0	143	55	198	0	6	129	0	135	0	0	0	19	69	402
HOURLY TOTAL	0	0	615	175	790	0	20	485	0	505	0	0	163	82	245	1540
12:00-12:15	0	0	143	42	185	0	7	153	0	160	0	0	0	21	58	403
12:15-12:30	0	0	196	64	260	0	7	138	0	145	0	0	0	25	70	475
12:30-12:45	0	0	159	51	210	0	6	145	0	151	0	0	0	33	72	433
12:45-1:00	0	0	147	52	199	0	7	122	0	129	0	0	0	30	86	414
HOURLY TOTAL	0	0	645	209	854	0	27	558	0	585	0	0	174	112	286	1725
1:00-1:15	0	0	130	55	185	0	6	159	0	165	0	0	0	22	63	413
1:15-1:30	0	0	158	44	202	0	7	141	0	148	0	0	0	46	71	421
1:30-1:45	0	0	107	42	149	0	5	155	0	160	0	0	0	19	65	374
1:45-2:00	0	0	170	36	206	0	8	137	0	145	0	0	0	25	69	420
HOURLY TOTAL	0	0	565	177	742	0	26	592	0	618	0	0	1	112	268	1628
2:00-2:15	0	0	114	37	151	0	10	146	0	156	0	0	0	27	67	374
2:15-2:30	0	0	127	43	175	0	9	156	0	165	0	0	0	18	54	394
2:30-2:45	0	0	112	43	155	0	8	173	0	181	0	0	0	24	70	406
2:45-3:00	0	0	179	35	214	0	4	166	0	170	0	0	0	16	62	446
HOURLY TOTAL	0	0	532	163	695	0	31	641	0	672	0	0	168	85	253	1620
3:00-3:15	0	0	149	44	193	0	6	164	0	170	0	0	0	14	49	412
3:15-3:30	0	0	157	65	222	0	4	171	0	175	0	0	0	25	64	461
3:30-3:45	0	0	178	44	222	0	9	178	0	187	0	0	0	26	68	477
3:45-4:00	0	0	160	61	230	0	8	193	0	201	0	0	0	16	59	490
HOURLY TOTAL	0	0	653	214	867	0	27	706	0	733	0	0	159	81	240	1840
4:00-4:15	0	0	165	51	216	0	8	203	0	211	0	0	0	25	63	490
4:15-4:30	0	0	148	59	207	0	9	163	0	172	0	0	0	22	70	449
4:30-4:45	0	0	209	49	258	0	15	193	0	208	0	0	0	20	54	520
4:45-5:00	0	0	172	53	230	0	14	144	0	158	0	0	0	27	75	463
HOURLY TOTAL	0	0	694	217	911	0	46	703	0	749	0	0	168	94	262	1922
5:00-5:15	0	0	202	50	252	0	6	152	0	158	0	0	0	25	70	480
5:15-5:30	0	0	201	48	249	0	15	146	0	161	0	0	0	27	64	474
5:30-5:45	0	0	140	36	176	0	13	185	0	198	0	0	0	21	52	426
5:45-6:00	0	0	130	47	177	0	5	175	0	180	0	0	0	31	76	433
HOURLY TOTAL	0	0	673	181	854	0	39	658	0	697	0	0	158	104	262	1813
6:00-6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15-6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30-6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45-7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FIRE ROAD (CR 651)
EGG HARBOR TOWNSHIP
CRASH SUMMARY 2003-2005
TOTAL-74 CRASHES

Month

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<u>9</u>	<u>1</u>	<u>5</u>	<u>10</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>3</u>	<u>11</u>	<u>7</u>	<u>1</u>

Time of Day				Day of Week	
AM	Number of Crashes	PM	Number of Crashes		Number of Crashes
Midnight - Noon		Noon - Midnight			
Midnight – 1:00		12:00-1300	5	Monday	10
1:00 – 2:00		1300-1400	5	Tuesday	14
2:00 – 3:00	1	1400-1500	4	Wednesday	12
3:00 – 4:00	2	1500-1600	9	Thursday	8
4:00 – 5:00		1600-1700	7	Friday	20
5:00 – 6:00		1700-1800	10	Saturday	7
6:00 – 7:00		1800-1900	2	Sunday	3
7:00 – 8:00	3	1900-2000	3		
8:00 – 9:00	6	2000-2100	1		
9:00 – 10:00	4	2100-2200			
10:00 – 11:00	5	2200-2300	1		
11:00 – 12 Noon	5	2300-2400			

DAY 63
NIGHT 10
UNKNOWN 1

DRY 51 WET 19 SNOWY 3 ICY 1 OTHERS

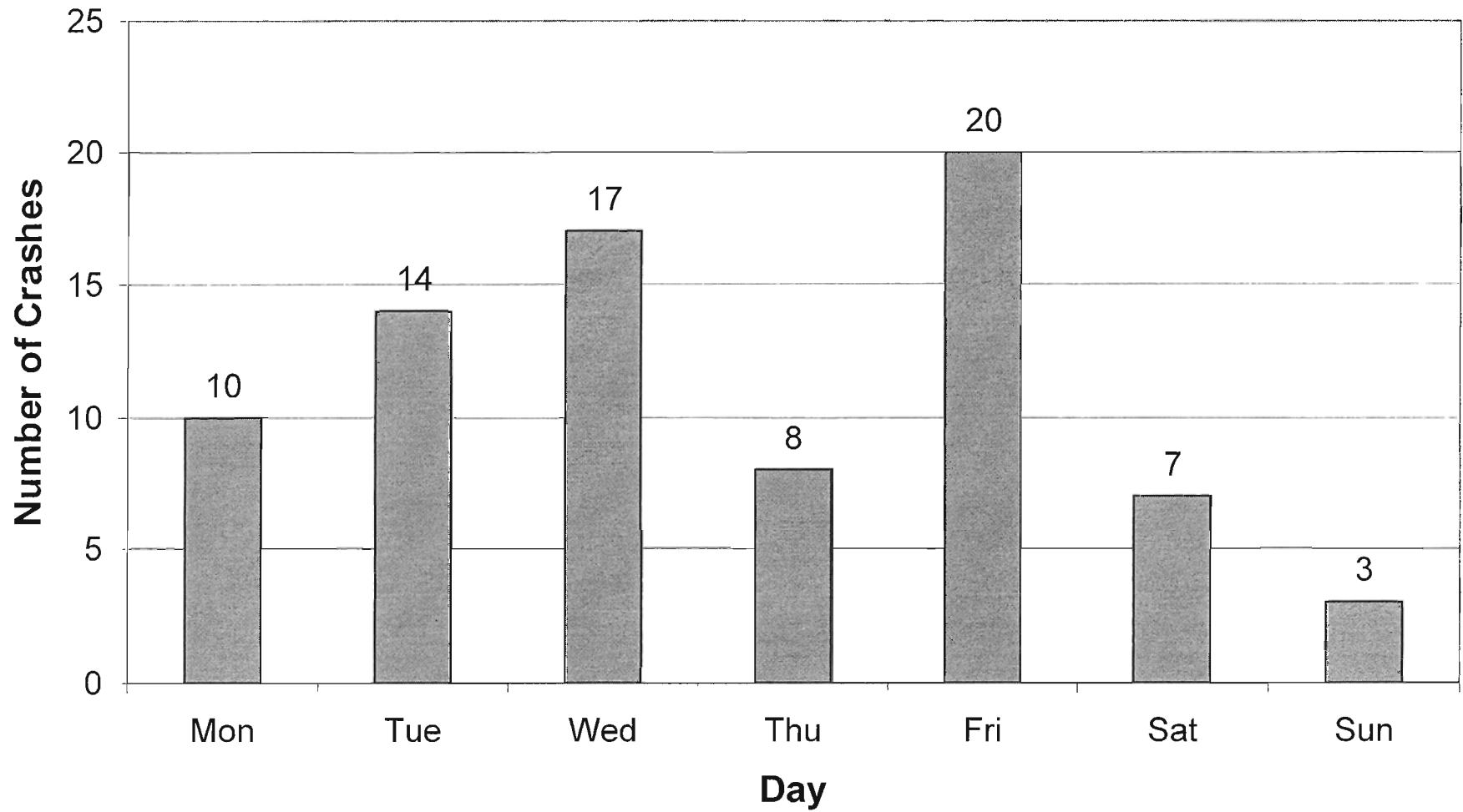
CLEAR 51 RAIN 18 SNOW 4 FOG 1

INJURY 14 NON-INJURY 60 FATAL 0

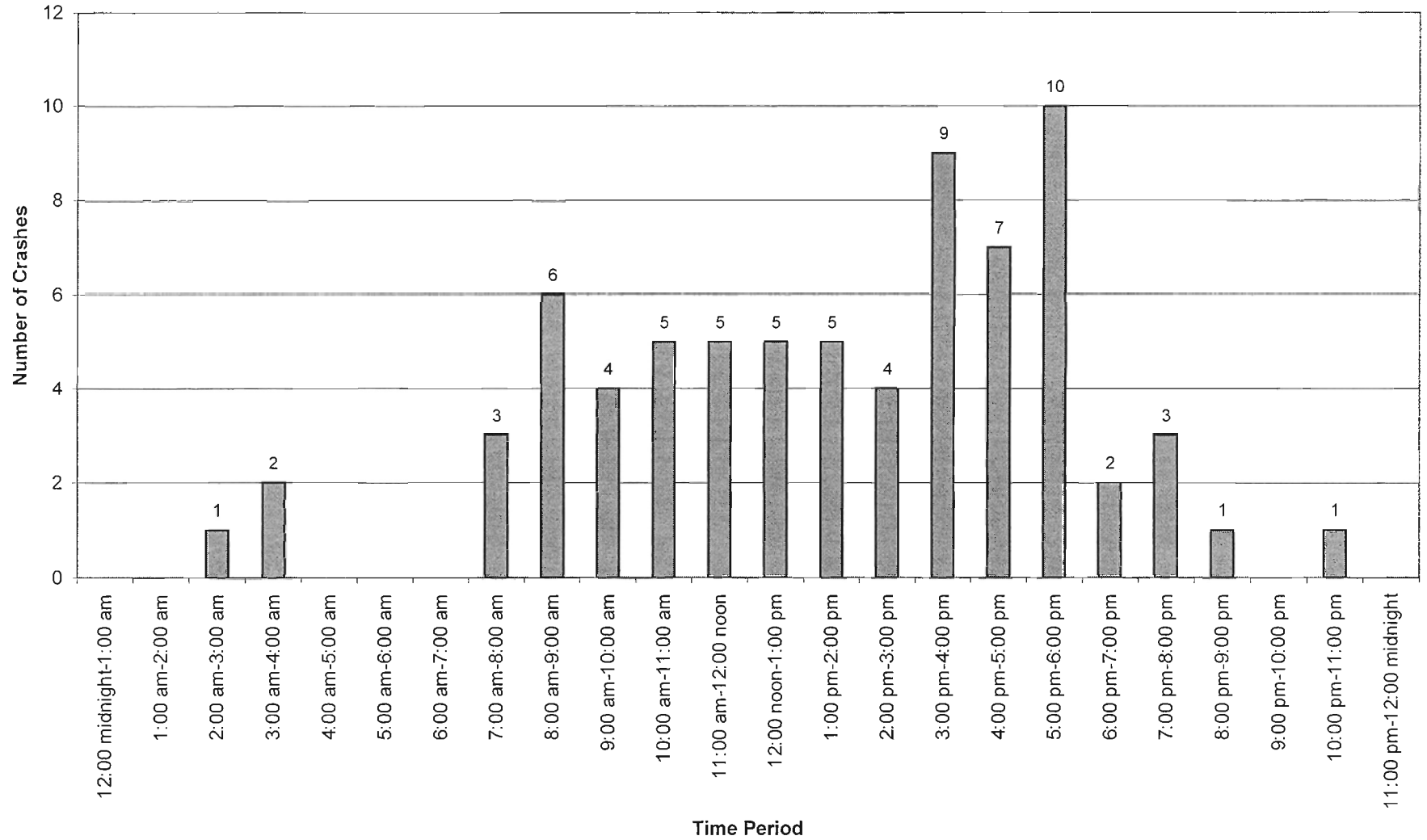
Right Angle	Same Direction	Left Turn	Right Turn	Side Swipe
<u>13</u>	<u>38</u>	<u>7</u>	<u>0</u>	<u>5</u>
Fixed Object	Head On	Other	Pedestrian	Bike
<u>2</u>		<u>8</u>	<u>1</u>	

Parking Related

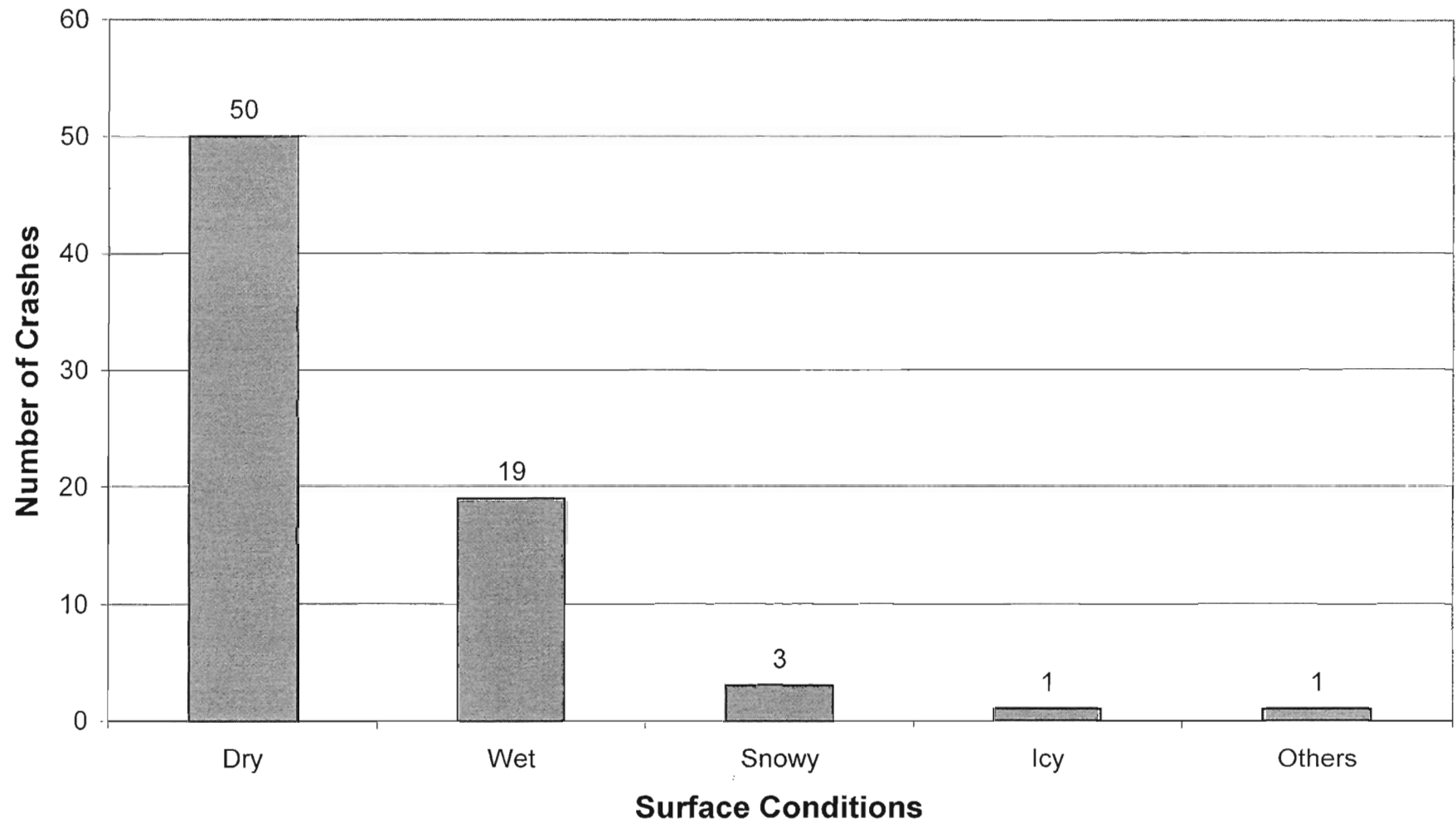
Fire Road (CR 651) Crash Occurrence by Day of Week



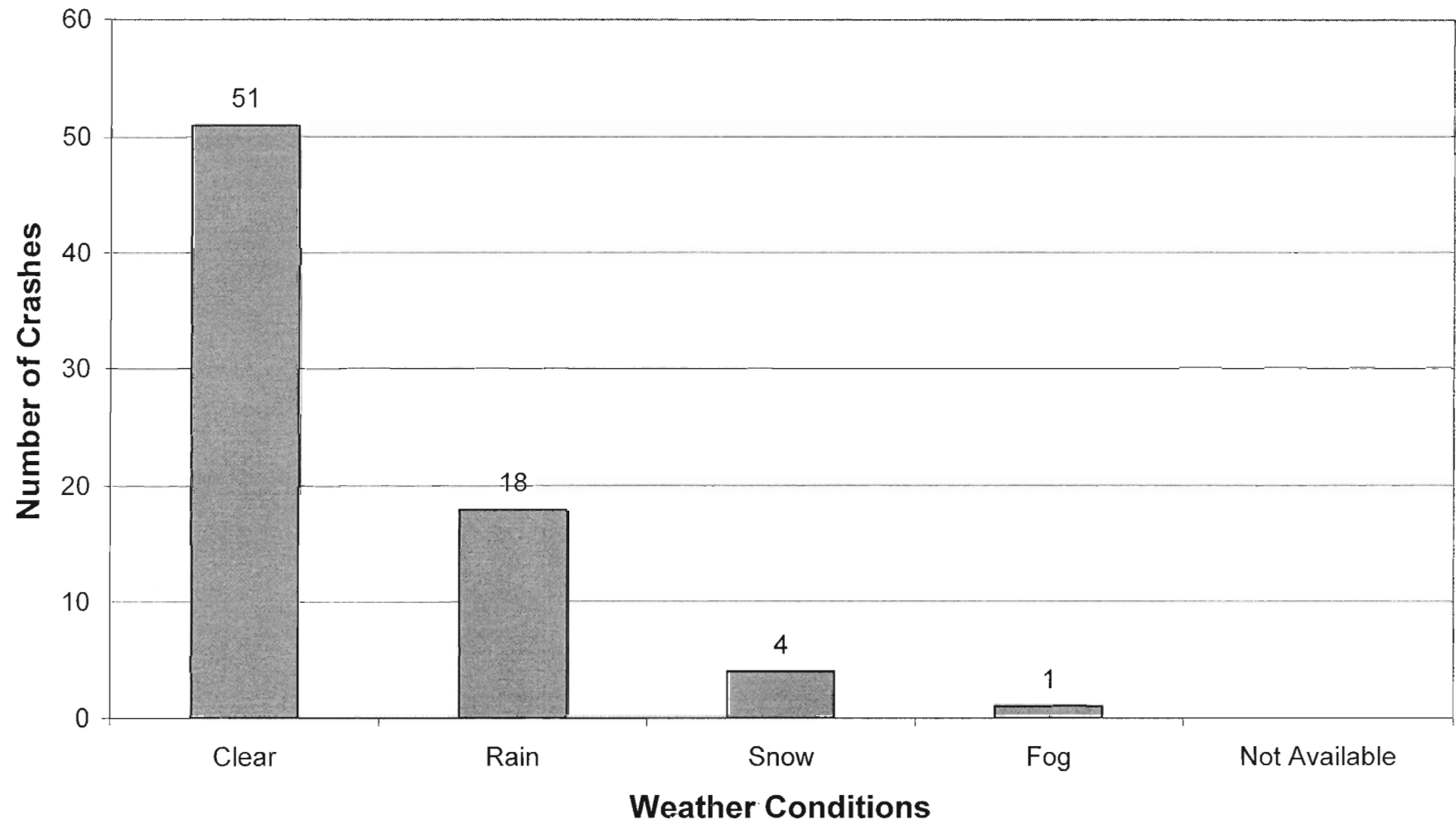
Fire Road (CR 651)
Crash Occurrence by Time of Day



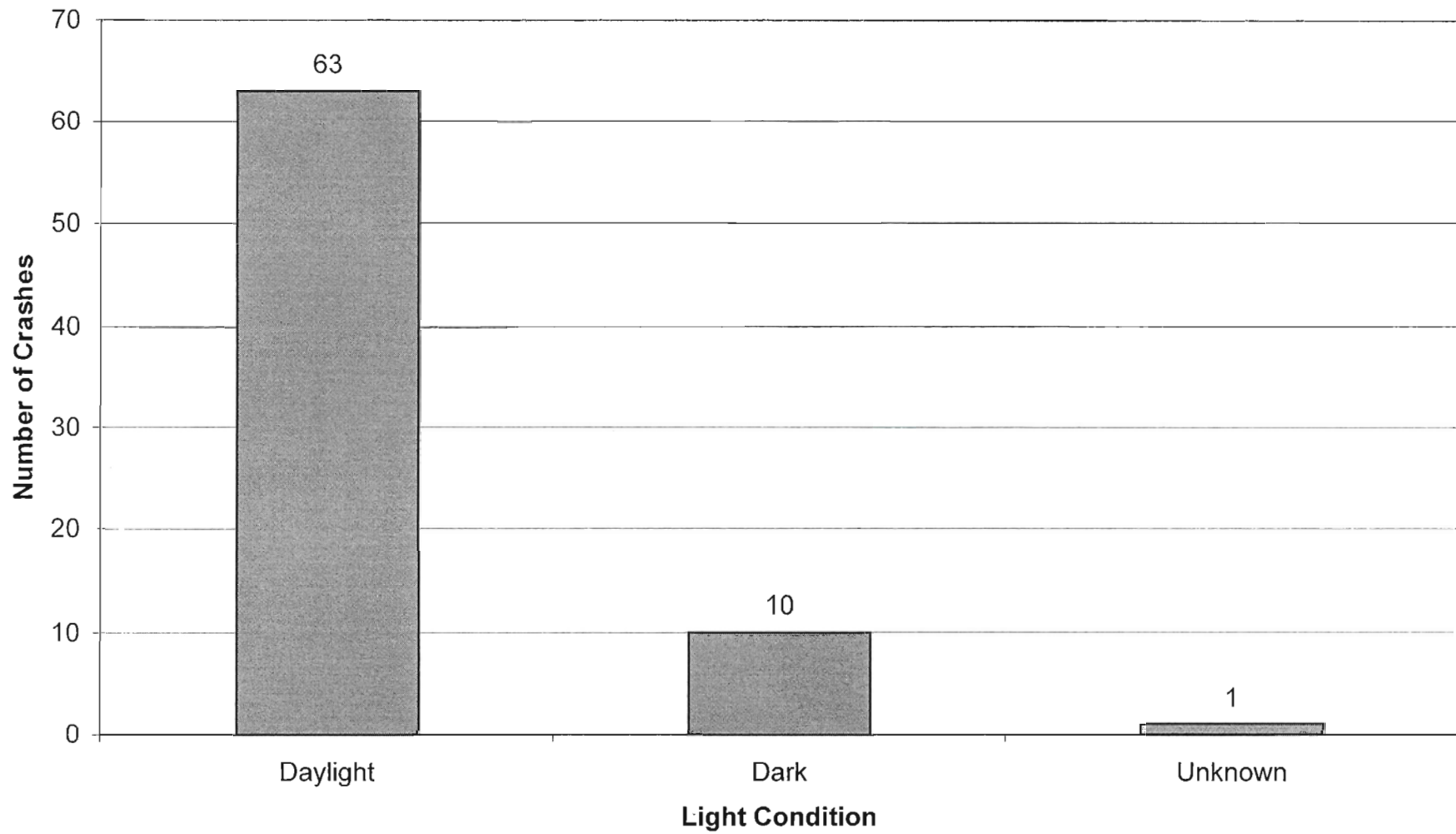
Fire Road (CR 651)
Crash Occurrence by Surface Conditions



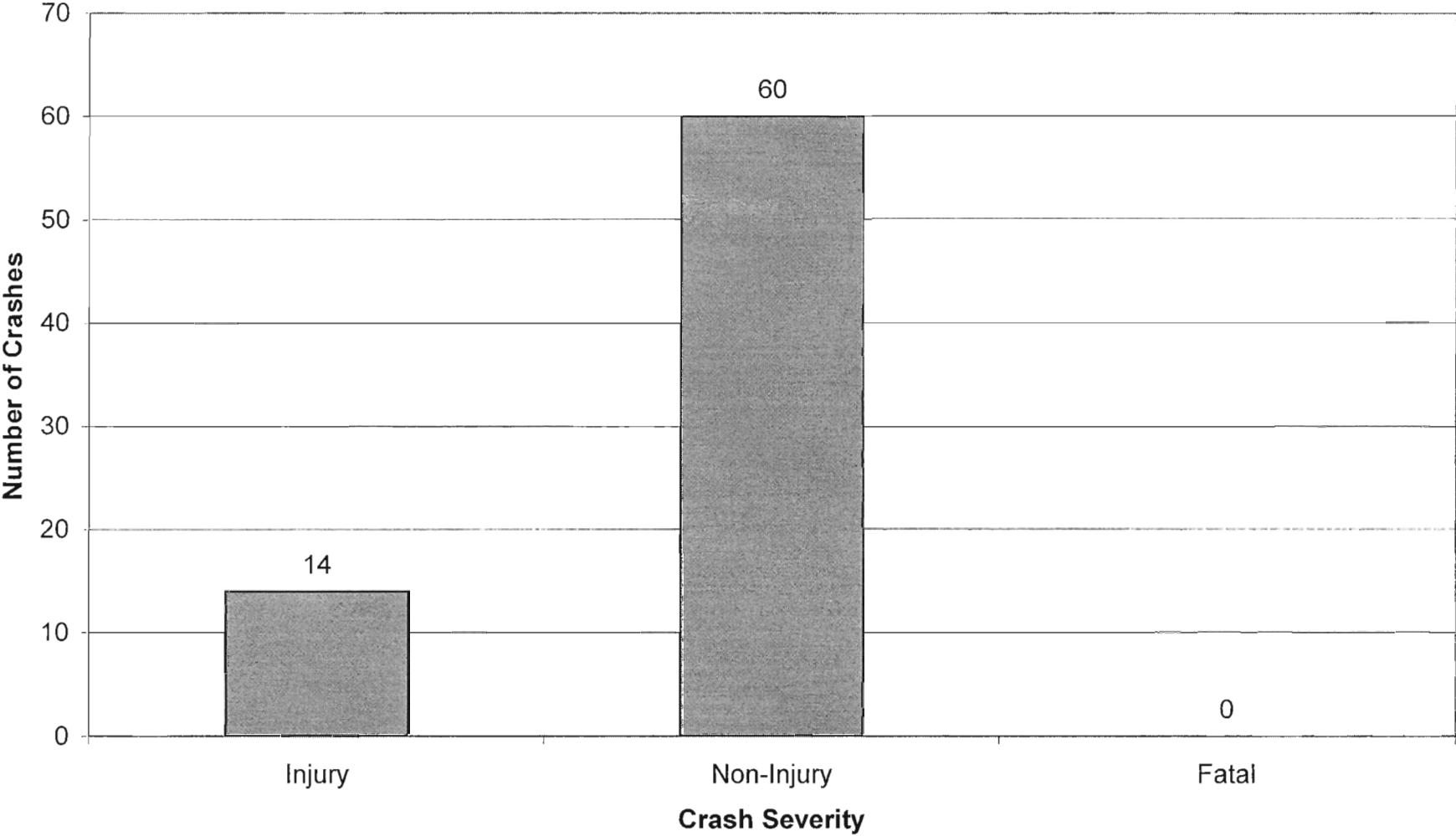
Fire Road (CR 651)
Crash Occurrence by Weather Conditions



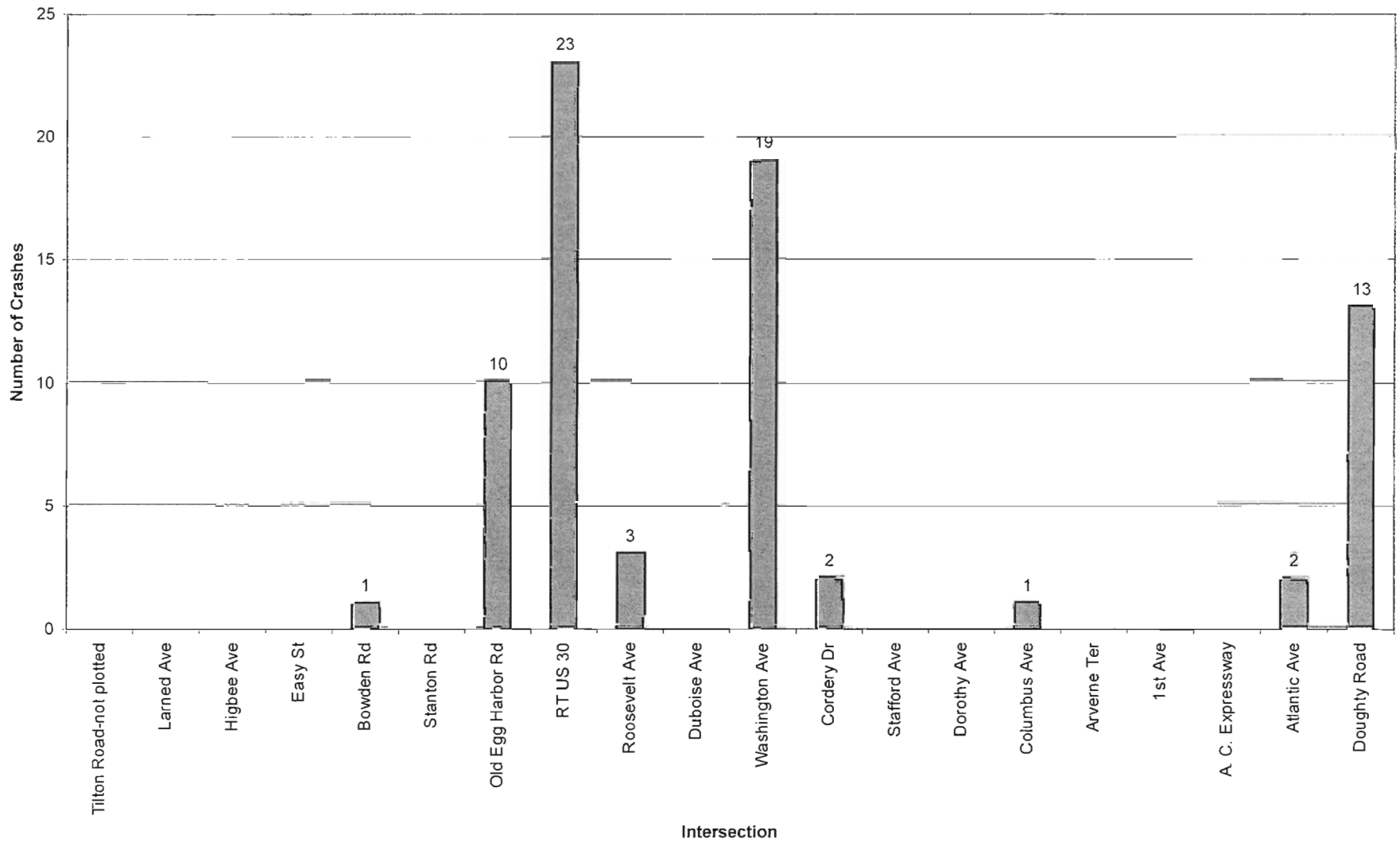
Fire Road (CR 651)
Crash Occurrence by Light Condition



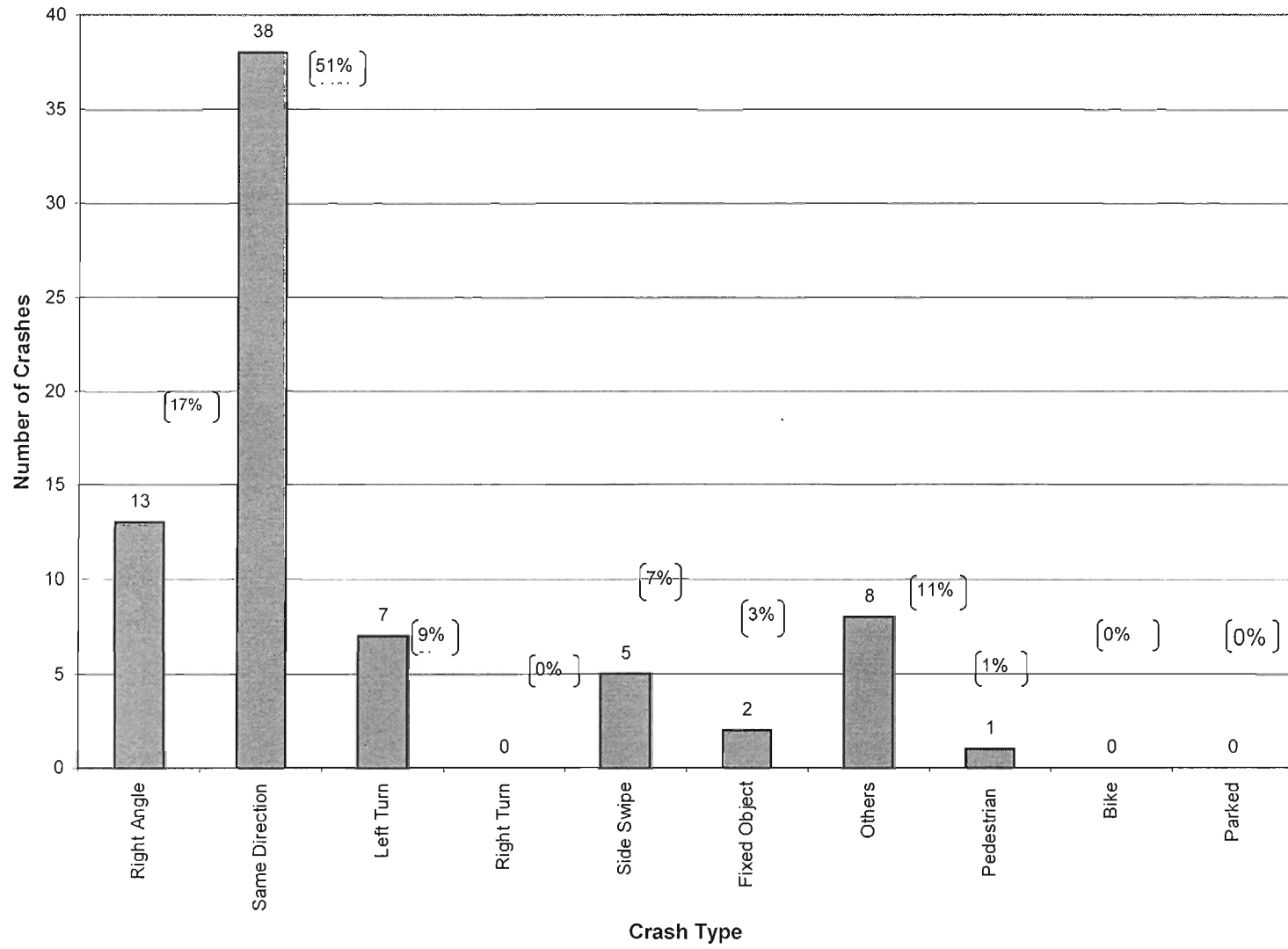
**Fire Road (CR 651)
Crash Severity**



Fire Road (CR 651)
Spot Location of Crashes (Proximity to Nearest Intersection)



Fire Road (CR 651)
Crash Type



SJTPO Safety Audits



006.jpg



007.jpg



008.jpg



009.jpg

Fire Road

SJTPO Safety Audits



010.jpg



011.jpg



012.jpg

Fire Road



013.jpg

SJTPO Safety Audits



014.jpg



015.jpg



016.jpg

Fire Road