

9. TRAFFIC MANAGEMENT STRATEGY

This section presents the current traffic control and management strategy that is designed to expedite the movement of evacuating traffic. The resources required to implement this strategy include:

- Personnel with the capabilities of performing the planned control functions of traffic guides (preferably, not necessarily, law enforcement officers).
- Traffic Control Devices to assist these personnel in the performance of their tasks. These devices should comply with the guidance of the Manual of Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration (FHWA) of the U.S.D.O.T. All state and most county transportation agencies have access to the MUTCD (also available online). Applicable devices include, with reference to the MUTCD:
 - Traffic Barriers: Chapter 6F, section 6F.61, 62 and Figure 6F-4.
 - Traffic Cones: Chapter 3F and section 6F.56.
 - Signs: Chapter 2I
- A plan that defines all necessary details and is documented in a format that is readily understood by those assigned to perform traffic control.

The functions to be performed in the field are:

1. Facilitate evacuating traffic movements that serve to expedite travel out of the EPZ along routes that the analysis has found to be most effective.
2. Discourage traffic movements that permit evacuating vehicles to travel in a direction which takes them significantly closer to the power plant, or which interferes with the efficient flow of other evacuees.

We employ the terms "facilitate" and "discourage" rather than "enforce" and "prohibit" to indicate the need for flexibility in performing the traffic control function. There are always legitimate reasons for a driver to prefer a direction other than that indicated. For example:

- A driver may be traveling home from work or from another location, to join other family members preliminary to evacuating.
- An evacuating driver may be taking a detour from the evacuation route in order to pick up a relative, or other evacuees.
- The driver may be an emergency worker en route to perform an important activity.

The implementation of a plan must also be flexible enough for the application of sound judgment by the traffic guide.

The traffic management strategy is the outcome of the following process:

1. A field survey of these critical locations.
The schematics describing traffic control, which are presented in Appendix G, are based on data collected during field surveys, upon large-scale maps, and on overhead photos.
2. Computer analysis of the evacuation traffic flow environment.
This analysis identifies the best routing and those locations that experience pronounced congestion.
3. Consultation with emergency management and enforcement personnel.
Trained personnel who are experienced in controlling traffic and are aware of the likely evacuation traffic patterns have extensively reviewed these control tactics.
4. Prioritization of TCPs.
Application of traffic control at some TCPs will have a more pronounced influence on expediting traffic movements than at other TCPs. For example, TCPs controlling traffic originating from areas in close proximity to the power plant could have a more beneficial effect on minimizing potential exposure to radioactivity than those TCPs located far from the power plant. Thus, during the mobilization of personnel to respond to the emergency situation, those TCPs which are assigned a higher priority, should be manned earlier. These priorities have been developed in conjunction with county emergency management representatives and law enforcement personnel.

The control tactic at each TCP is presented in each schematic that appears in Appendix G.

The use of Intelligent Transportation Systems (ITS) technologies can reduce manpower and equipment needs, while still facilitating the evacuation process. Dynamic Message Signs (DMS) can be placed within the EPZ to provide information to travelers regarding traffic conditions, route selection, and reception center information. DMS can also be placed outside of the EPZ to warn motorists to avoid using routes that may conflict with the flow of evacuees away from the nuclear power plant. Highway Advisory Radio (HAR) can be used to broadcast information to evacuees en route through their vehicle stereo systems. Automated Traveler Information Systems (ATIS) can also be used to provide evacuees with information. Internet websites can provide traffic and evacuation route information before the evacuee begins his trip, while on board navigation systems (GPS units), cell phones, and pagers can be used to provide information en route. These are only several examples of how ITS technologies can benefit the evacuation process.

Chapter 2I of the MUTCD presents guidance on Emergency Management signing. Specifically, the Evacuation Route sign, EM-1 on page 2I-3, with the word “Hurricane” removed, could be installed selectively within the EPZ, if considered advisable by local and state authorities. Similar comments apply to sign EM-3 which identifies TCP locations.

10. EVACUATION ROUTES

Evacuation routes are composed of two distinct components:

- Routing from a Protective Action Zone (PAZ) being evacuated to the boundary of the Evacuation Region and thence out of the Emergency Planning Zone (EPZ).
- Routing of evacuees from the EPZ boundary to the reception centers.

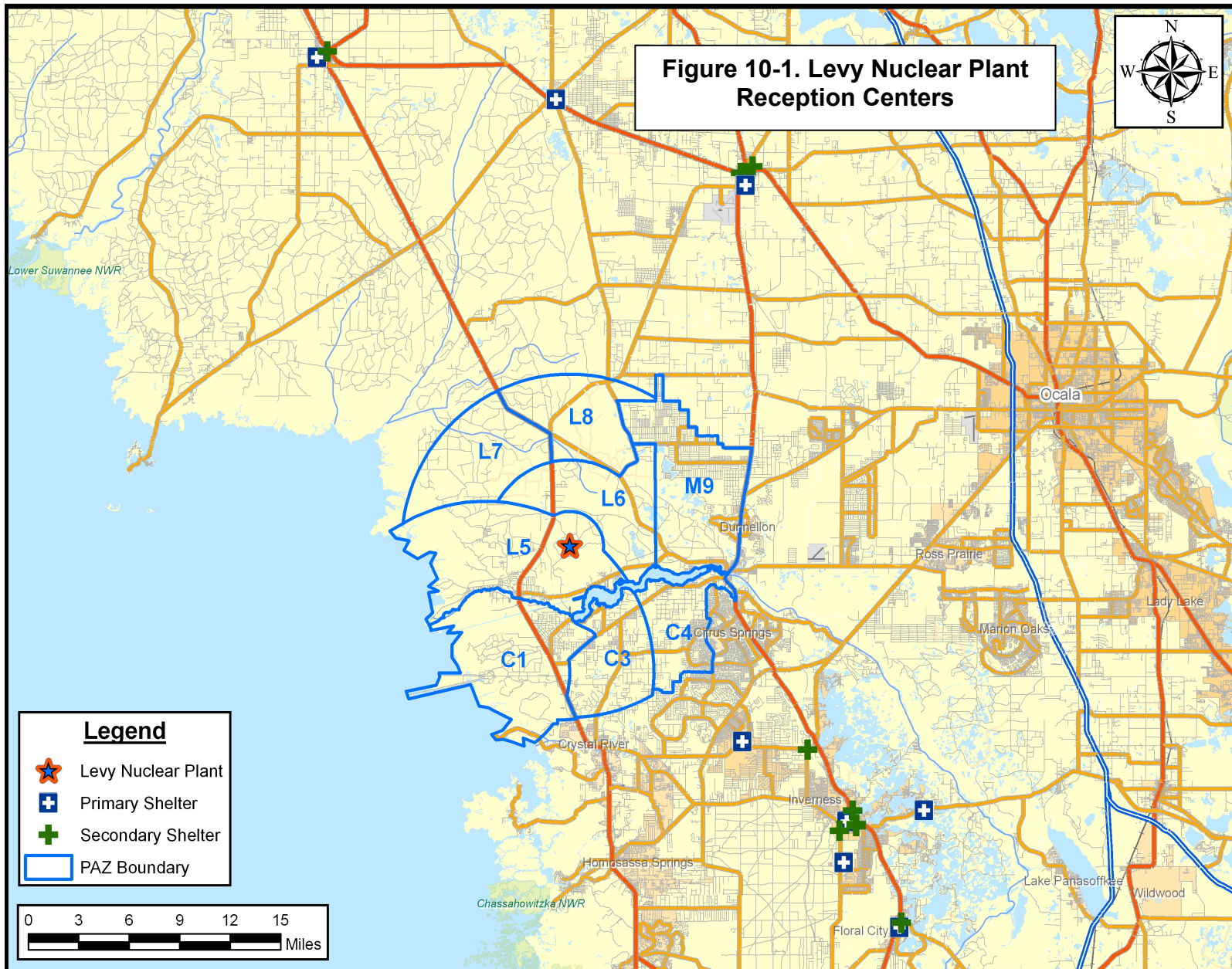
Evacuees should be routed within the EPZ in such a way as to *minimize their exposure to risk*. This primary requirement is met by routing traffic to move away from the location of the Levy Nuclear Plant, to the extent practicable, and by delineating evacuation routes that expedite the movement of evacuating vehicles. This latter objective is addressed by developing evacuation routes to achieve a balancing of traffic demand relative to the available highway capacity to the extent possible, subject to satisfying the primary requirement noted above. This is achieved by carefully specifying candidate destinations for all origin centroids where evacuation trips are generated, and applying the TRAD model effectively. See Appendices A-D for further discussion.

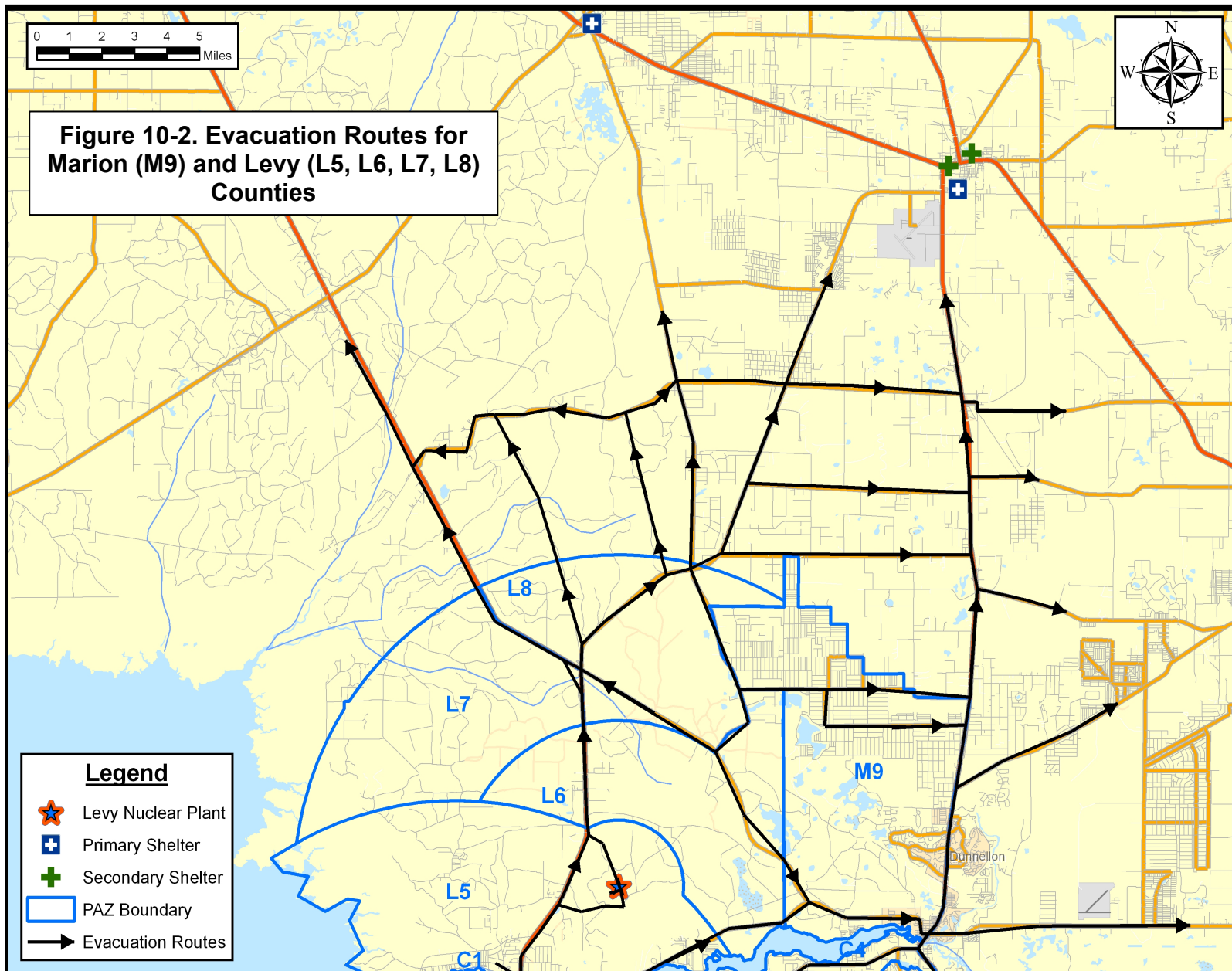
The routing of evacuees from the EPZ boundary to the reception centers should be responsive to several considerations:

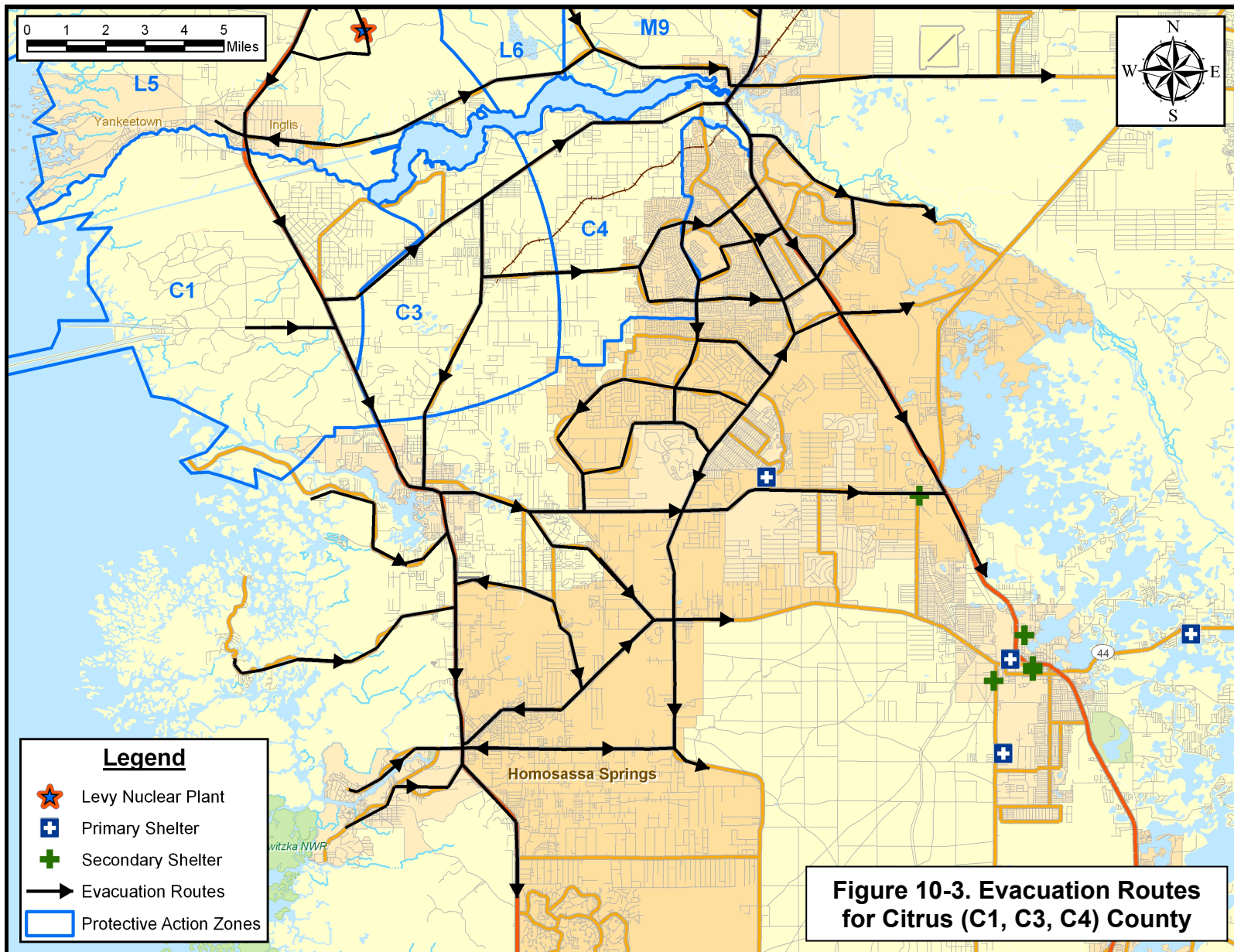
- Minimize the amount of travel outside the EPZ, from the points where these routes cross the EPZ boundary, to the reception centers.
- Relate the anticipated volume of traffic destined to the reception center, to the capacity of the reception center facility.

Table 10-1 lists the details – Name, Facility type and Location for all the designated reception centers. The facilities of the type – reception center and primary shelter – are shown as primary shelters, while all other facility types are shown as secondary shelters in Figure 10-1. The major evacuation routes for the three counties within the EPZ are presented in Figures 10-2 and 10-3.

Table 10-1 Reception Center Details – Name, Type and Location						
Reception Center	Facility Type	Street Address	City	State	ZIP	County
Withlacoochee Technical Institute	Reception Center	1201 W Main Street	Inverness	Florida	34450	Citrus
Lecanto Middle School	Special Needs Shelter	3800 W Educational Path	Lecanto	Florida	34461	Citrus
First Assembly of God of Inverness	Primary Shelter	4201 S Pleasant Grove Rd	Inverness	Florida	34452	Citrus
East Citrus Community Center	Primary Shelter	9907 E. Gulf-to-Lake Hwy.	Inverness	Florida	34450	Citrus
Floral City Community Building	Primary Shelter	8370 E Orange Ave	Floral City	Florida	34436	Citrus
Forest Ridge Elementary School	Primary Shelter	2927 N Forest Ridge Blvd	Hernando	Florida	34442	Citrus
Citrus High School	Secondary Shelter	600 W Highland Blvd	Inverness	Florida	34452	Citrus
Floral City Elementary	Secondary Shelter	8457 E. Marvin St.	Floral City	Florida	34436	Citrus
Hernando Elementary School	Secondary Shelter	2353 N Croft Ave	Hernando	Florida	34442	Citrus
Inverness Middle School	Secondary Shelter	1000 Middle School Dr	Inverness	Florida	34450	Citrus
Inverness Primary School	Secondary Shelter	206 S Line Avenue	Inverness	Florida	34452	Citrus
Pleasant Grove Elementary	Secondary Shelter	630 Pleasant Grove Rd.	Inverness	Florida	34452	Citrus
First United Methodist Church	Daycare Shelter	3896 S. Pleasant Grove Rd	Inverness	Florida	34452	Citrus
Bronson High School	Primary Shelter	350 School Street	Bronson	Florida	32621	Levy
Chiefland Elementary	Primary Shelter	1205 NW 4th Ave.	Chiefland	Florida	32626	Levy
Bronson High School	Daycare Shelter	350 School St.	Bronson	Florida	32621	Levy
Chiefland High (Gym)	Secondary Shelter	816 N. Main St.	Chiefland	Florida	32626	Levy
Williston Middle School	Secondary Shelter	1345 NE 3rd Ave.	Williston	Florida	32696	Levy
Williston High School	Secondary Shelter	427 W. Noble Ave.	Williston	Florida	32696	Levy
Williston Elementary	Primary Shelter	801 S. Main St.	Williston	Florida	32696	Levy







11. SURVEILLANCE OF EVACUATION OPERATIONS

There is a need for surveillance of traffic operations during the evacuation. There is also a need to clear any blockage of roadways arising from accidents or vehicle disablement. Surveillance can take several forms.

1. Traffic control personnel, located at Traffic Control and Access Control points, provide fixed-point surveillance.
2. Ground patrols may be undertaken along well-defined paths to ensure coverage of those highways that serve as major evacuation routes.
3. Aerial surveillance of evacuation operations may also be conducted using helicopter or fixed-wing aircraft.
4. Cellular phone calls (if cellular coverage exists) from motorists may also provide direct field reports of road blockages.

These concurrent surveillance procedures are designed to provide coverage of the entire EPZ as well as the area around its periphery. It is the responsibility of the Counties to support an emergency response system that can receive messages from the field and be in a position to respond to any reported problems in a timely manner. This coverage should quickly identify, and expedite the response to any blockage caused by a disabled vehicle.

Tow Vehicles

In a low-speed traffic environment, any vehicle disablement is likely to arise due to a low-speed collision, mechanical failure or exhausting its fuel supply. In any case, the disabled vehicle can be pushed onto the shoulder, thereby restoring traffic flow. Past experience in other emergencies indicates that evacuees who are leaving an area often perform activities such as pushing a disabled vehicle to the side of the road without prompting.

While the need for tow vehicles is expected to be low under the circumstances described above, it is still prudent to be prepared for such a need. Tow trucks with a supply of gasoline may be deployed at strategic locations within, or just outside, the EPZ. These locations should be selected so that:

- They permit access to key, heavily loaded, evacuation routes.
- Responding tow trucks would most likely travel counter-flow relative to evacuating traffic.

12. CONFIRMATION TIME

It is necessary to confirm that the evacuation process is effective in the sense that the public is complying with the Advisory to Evacuate. Although the counties in the EPZ may use their own procedures for confirmation, we suggest an alternative or complementary approach.

The procedure we suggest employs a stratified random sample and a telephone survey. The size of the sample is dependent on the expected number of households that do not comply with the Advisory to Evacuate. We believe it is reasonable to assume, for the purpose of estimating sample size that at least 80 percent of the population within the EPZ will comply with the Advisory to Evacuate. On this basis, an analysis could be undertaken (see Table 12-1) to yield an estimated sample size of approximately 300.

The confirmation process should start at about 3-1/2 hours after the Advisory to Evacuate, which is when 90 percent of evacuees have completed their mobilization activities. At this time, virtually all evacuees will have departed on their respective trips and the local telephone system will be largely free of traffic.

As indicated in Table 12-1, approximately 7-1/2 person hours are needed to complete the telephone survey. If six people are assigned to this task, each dialing a different set of telephone exchanges (e.g., each person can be assigned a different set of Protective Action Zones), then the confirmation process will extend over a time frame of about 75 minutes. Thus, the confirmation should be completed before the evacuated area is cleared. Of course, fewer people would be needed for this survey if the Evacuation Region were only a portion of the EPZ. Use of modern automated computer controlled dialing equipment can significantly reduce the manpower requirements and the time required to undertake this type of confirmation survey.

Should the number of telephone responses (i.e., people still at home) exceed 20 percent, then the telephone survey should be repeated after an hour's interval until the confirmation process is completed.

TABLE 12-1
ESTIMATED NUMBER OF TELEPHONE CALLS REQUIRED
FOR CONFIRMATION OF EVACUATION

Problem Definition

Estimate number of phone calls, n, needed to ascertain the proportion, F of households that have not evacuated.

Reference: Burstein, H., Attribute Sampling, McGraw Hill, 1971

Given:

No. of households plus other facilities, N, within the EPZ (est.) = 10,150

Est. proportion, F, of households that have not evacuated = 0.20

Allowable error margin, e: 0.05

Confidence level, α : 0.95 (implies A = 1.96)

Applying Table 10 of cited reference,

$$p = F + e = 0.25; \quad q = 1 - p = 0.75$$

$$n = \frac{A^2 pq + e}{e^2} = 308$$

Finite population correction:

$$n_F = \frac{nN}{n + N - 1} = 299$$

Thus, some 300 telephone calls will confirm that approximately 20 percent of the population has not evacuated. If only 10 percent of the population does not comply with the Advisory to Evacuate, then the required sample size, $n_F = 212$.

Est. Person Hours to complete 300 telephone calls

Assume: Time to dial using touch-tone (random selection of listed numbers): 30 seconds

Time for 6 rings (no answer): 36 seconds

Time for 4 rings plus short conversation: 60 sec.

Interval between calls: 20 sec.

Person Hours: $300[30+20+0.8(36)+0.2(60)]/3600 = 7.6$

13. RECOMMENDATIONS

The following recommendations are offered:

1. The traffic management plan has been reviewed by state and county emergency planners with local and state police (See Section 9 and Appendix G). Specifically...
 - The number and locations of Traffic Control Points (TCP) and Access Control Points (ACP) have been reviewed in detail.
 - The indicated resource requirements (personnel, cones, barriers, etc.) have been reconciled with current assets.Efforts should be made to keep the traffic management plan up to date and to have all deputies working within the EPZ briefed on the plan.
2. Intelligent Transportation Systems (ITS) such as Dynamic Message Signs (DMS), Highway Advisory Radio (HAR), Automated Traveler Information Systems (ATIS), etc. should be used to facilitate the evacuation process (See Section 9). The placement of additional signage should consider evacuation needs.
3. Counties should implement procedures whereby schools are contacted prior to dispatch of buses from the depots to get an accurate count of students needing transportation and the number of buses required (See Section 8).
4. Counties should establish strategic locations to position tow trucks provided with gasoline containers in the event of a disabled vehicle during the evacuation process (See Section 11) and should encourage gas stations to remain open during the evacuation.
5. Counties should establish a system to confirm that the Advisory to Evacuate is being adhered to (see the approach suggested by KLD in Section 12). Given the propensity for diving and boating within the EPZ along Lake Rousseau and the Gulf of Mexico, one or more helicopters equipped with loudspeakers could fly over these areas to alert all transients of the need to immediately evacuate. Vehicles equipped with loudspeakers are also recommended. Police boats using colored smoke and flares could also be used to alert transients.
6. Examination of the ETE in Section 7 and Appendix J shows that the ETE for 100 percent of the population is generally 1½ to 2 hours longer than for 95 percent of the population. This non-linearity reflects the fact that relatively few stragglers require significantly more time to mobilize (i.e. prepare for the evacuation trip) than their neighbors. This leads to two recommendations:
 - The public outreach (information) program should emphasize the need for evacuees to minimize the time needed to prepare to evacuate (secure the home, assemble needed clothes, medicines, etc.).
 - **The decision makers should reference Table J-1C which lists the time needed to evacuate 95 percent of the population, when preparing recommended protective actions.**

APPENDIX A

Glossary of Traffic Engineering Terms

APPENDIX A: GLOSSARY OF TRAFFIC ENGINEERING TERMS

Term	Definition
Link	A network link represents a specific, one-directional section of roadway. A link has both physical (length, number of lanes, topology, etc.) and operational (turn movement percentages, service rate, free-flow speed) characteristics.
Measures of Effectiveness	Statistics describing traffic operations on a roadway network
Node	A network node generally represents an intersection of network links. A node has control characteristics, i.e., the allocation of service time to each approach link.
Origin	A location attached to a network link, within the EPZ or shadow area, where trips are generated at a specified rate in vehicles per hour (vph). These trips enter the roadway system to travel to their respective destinations.
Network	A graphical representation of the geometric topology of a physical roadway system, which is comprised of directional links and nodes.
Prevailing roadway and traffic conditions	Relates to the physical features of the roadway, the nature (e.g., composition) of traffic on the roadway and the ambient conditions (weather, visibility, pavement conditions, etc.)
Service Rate	Maximum rate at which vehicles, executing a specific turn maneuver, can be discharged from a section of roadway at the prevailing conditions, expressed in vehicles per second (vps) or vehicles per hour (vph).
Service Volume	Maximum number of vehicles which can pass over a section of roadway in one direction during a specified time period with operating conditions at a specified Level of Service (The Service Volume at the upper bound of Level of Service, E, equals Capacity). Service Volume is usually expressed as vehicles per hour (vph).
Signal Cycle Length	The total elapsed time to display all signal indications, in sequence. The cycle length is expressed in seconds.
Signal Interval	A single combination of signal indications. The interval duration is expressed in seconds. A signal phase is comprised of a sequence of signal intervals.
Signal Phase	A set of signal indications (and intervals) which services a particular combination of traffic movements on selected approaches to the intersection. The phase duration is expressed in seconds.

Term	Definition
Traffic (Trip) Assignment	A process of assigning traffic to paths of travel in such a way as to satisfy all trip objectives (i.e., the desire of each vehicle to travel from a specified origin in the network to a specified destination) and to optimize some stated objective or combination of objectives. In general, the objective is stated in terms of minimizing a generalized "cost". For example, "cost" may be expressed in terms of travel time.
Traffic Density	The number of vehicles that occupy one lane of a roadway section of specified length at a point in time, expressed as vehicles per mile (vpm).
Traffic (Trip) Distribution	A process for determining the destinations of all traffic generated at the origins. The result often takes the form of a Trip Table, which is a matrix of origin-destination traffic volumes.
Traffic Simulation	A computer model designed to replicate the real-world operation of vehicles on a roadway network, so as to provide statistics describing traffic performance. These statistics are called Measures of Effectiveness.
Traffic Volume	The number of vehicles that pass over a section of roadway in one direction, expressed in vehicles per hour (vph). Where applicable, traffic volume may be stratified by turn movement.
Travel Mode	Distinguishes between private auto, bus, rail, pedestrian and air travel modes.
Trip Table or Origin-Destination Matrix	A rectangular matrix or table, whose entries contain the number of trips generated at each specified origin, during a specified time period, that are attracted to (and travel toward) each of its specified destinations. These values are expressed in vehicles per hour (vph) or in vehicles.
Turning Capacity	The capacity associated with that component of the traffic stream which executes a specified turn maneuver from an approach at an intersection.

APPENDIX B

Traffic Assignment Model

APPENDIX B: TRAFFIC ASSIGNMENT MODEL

This section describes the integrated trip assignment and distribution model named TRAD that is expressly designed for use in analyzing evacuation scenarios. This model employs equilibrium traffic assignment principles and is one of the models of the IDYNEV System.

To apply TRAD, the analyst must specify the highway network, link capacity information, the volume of traffic generated at all origin centroids, a set of accessible candidate destination nodes on the periphery of the EPZ for each origin, and the capacity (i.e., "attraction") of each destination node. TRAD calculates the optimal trip distribution and the optimal trip assignment (i.e., routing) of the traffic generated at each origin node, traveling to the associated set of candidate destination nodes, so as to minimize evacuee travel times.

Overview of Integrated Distribution and Assignment Model

The underlying premise is that the selection of destinations and routes is intrinsically coupled in an evacuation scenario. That is, people in vehicles seek to travel out of an area of potential risk as rapidly as possible by selecting the "best" route. The model is designed to identify these "best" routes in a manner that distributes vehicles from origins to destinations and routes them over the highway network, in a consistent and optimal manner.

The approach we adopt is to extend the basic equilibrium assignment methodology to embrace the distribution process, as well. That is, the selection of destination nodes by travelers from each origin node, and the selection of the connecting paths of travel, are both determined by the integrated model. This determination is subject to specified capacity constraints, so as to satisfy the stated objective function. This objective function is the statement of the User Optimization Principle by Wardrop¹.

To accomplish this integration, we leave the equilibrium assignment model intact, changing only the form of the objective function. It will also be necessary to create a "fictional" augmentation of the highway network. This augmentation will consist of Pseudo-Links and Pseudo-Nodes, so configured as to embed an equilibrium Distribution Model within the fabric of the Assignment Model.

¹ Wardrop, J.G., 1952. Some Theoretical Aspects of Road Traffic Research, *Proceedings, Institute of Civil Engineers*, Part II, Vol. 1, pp. 325-378.

Specification of TRAD Model Inputs

The user must specify, for each origin node, the average hourly traffic volume generated, as well as a set of candidate accessible destinations. A destination is “accessible” to traffic originating at an origin node if there is at least one path connecting the origin to the destination node. There must be at least one destination node specified for each origin centroid. The number of trips generated at the origin node, which are distributed to each specified, accessible destination node within this set, is determined by the model in a way as to satisfy the network-wide objective function (Wardrop's Principle).

The user must also specify the total number of trips which can be accommodated by each destination node. This value reflects the capacities of the road(s) immediately servicing the destination node. We call this number of trips, the "attraction" of the destination node, consistent with conventional practice. Clearly, we require that the total number of trips traveling to a destination, j , from all origin nodes, i , cannot exceed the attraction of destination node, j . By summing over all destination nodes, this constraint also states that the total trips generated at all origin nodes must not exceed the total capacity to accommodate these trips at all of the specified destinations.

In summary, the user must specify the total trips generated at each of the origin nodes, the maximum number of trips that can be accommodated by each of the specified destination nodes and the highway network attributes which include the traffic control tactics. The TRAD model includes a function which expresses travel time on each network link in terms of traffic volume and link capacity. This function drives the underlying trip distribution and trip assignment decision-making process. Thus, the TRAD model satisfies the objectives of evacuees to select destination nodes and travel paths to minimize evacuation travel time. As such, this integrated model is classified as a behavioral model.

At the outset, it may appear that we have an intractable problem:

- If TRAD retains the basic assignment algorithm, it must be provided a Trip Table as input.
- On the other hand, if the distribution model is embedded within the assignment model, rather than preceding it, a Trip Table is not available as input.

The resolution of this problem is as follows:

1. We construct an "augmentation" network that allows the user to specify only the volume for each origin node. The allocation of trips from the origin node to each candidate destination node, is not specified and will be determined internally by the model.
2. We construct pseudo-links which enforce the specified values of attraction, A_j , for all destination nodes, j , by suitably calibrating the relationship of the travel time vs. volume and capacity.

This augmented network is comprised of three subnetworks:

1. The highway subnetwork, which consists of "Class I" Links and Nodes.
2. A subnetwork of "Class II" Pseudo-Links which acts as an interface between the highway subnetwork and the network augmentation.
3. The subnetwork of "Class III" Pseudo-Links and Nodes which comprises the network augmentation described above.

The need for these Class II links will become clear later. The classifications are described below:

Class I Links and Nodes

These links and nodes represent the physical highway network: sections of highway and intersections. Trips generated at each Origin [Centroid] Node are assigned to a specified Class I link via a "connector" link. These connector links are transparent to the user and offer no impedance to the traveler; they represent the aggregation of local streets which service the centroidal generated trips and feed them onto the highway network. The real-world destination nodes are part of this network. The immediate approaches to these destination nodes are Class I links.

Class II Links

These pseudo-links are constructed so as to connect each specified destination node with its Class III Pseudo-Node (P-N) counterpart on a one-to-one basis. The capacities of these Class II links are set equal to the capacities at their respective destination nodes.

Class III Links and Nodes

Class III links and nodes form the augmentation to the basic network. These Pseudo-Links provide paths from the Class II links servicing traffic traveling from the specified [real] destination nodes, to the Super-Nodes which represent the user-specified set of destination nodes associated with each origin node.

Each Class of links provides a different function:

- Class I links represent the physical highway network. As such, each link has a finite capacity, a finite length and an estimated travel time for free-flowing vehicles. The nodes generally represent intersections, interchanges and, possibly, changes in link geometry. The topology of the Class I network represents that of the physical highway system.
- The Class II links represent the interface between the real highway subnetwork and the augmentation subnetwork. These pseudo-links are needed to represent the specified "attractions" of each destination node, i.e.,

the maximum number of vehicles that can be accommodated by each destination node. Instead of explicitly assigning a capacity limitation to the destination nodes, we assign this capacity limitation of the Class II Pseudo-Links. This approach is much more suitable, computationally.

- The topology of the network augmentation (i.e., Class III Links and Nodes) is designed so that all traffic from an origin node can only travel to the single “Super-Node” by flowing through its set of real destination nodes, thence along the links of the augmented network.

The Class II Pseudo-Links and the network augmentation of Class III Pseudo-Nodes and Links represent logical constructs of fictitious links created internally by the model, that allows the user to specify the identity of all destination nodes in each origin-based set, without specifying the distribution of traffic volumes from the origin to each destination node in that set.

Calculation of Capacities and Impedances

Each class of links exhibits different properties. Specifically, the relationship between travel impedance (which is expressed in terms of travel time) and both volume and capacity will differ:

- For Class I links, the capacity represents the physical limitation of the highway sections. Travel impedance is functionally expressed by relating travel time with respect to the traffic volume-link capacity relationship.
- For Class II links, link capacity represents the maximum number of vehicles that can be accommodated at the [real] destination nodes that form the upstream nodes of each Class II link. Since Class II links are Pseudo-Links, there should be virtually no difference in impedance to traffic along Class II links when the assigned traffic volume on these links is below their respective capacities. That is, the assignment of traffic should not be influenced by differences in travel impedance on those Class II links where the assigned volumes do not exceed their respective capacities.
- For Class III links, both capacity and impedance have no meaning. Since the Class II links limit the number of vehicles entering the Class III subnetwork at all entry points (i.e., at the Class II Pseudo-Nodes) and since all these links are Pseudo-Links, it follows that the Class III network is, by definition, an uncapacitated network.

Specification of the Objective Function

It is computationally convenient to be able to specify a single impedance (or "cost") function relating the travel time on a link, to its capacity and assigned traffic volume, for all classes of links. To achieve this, we will adopt the following form based on the original "BPR Formula"²:

$$T = T_o \{ \alpha [1 + a_1 (\frac{V}{C})^{b_1}] + \beta [1 + a_2 (\frac{V}{C})^{b_2}] \} + I$$

Where, as for the present traffic assignment model in TRAD,

T	=	Link travel time, sec.
T _o	=	Unimpeded link travel time, sec.
V	=	Traffic volume on the link, veh/hr
C	=	Link capacity, veh/hr
a _i , b _i	=	Calibration parameters
α, β	=	Coefficients defined below
I	=	Impedance term, expressed in seconds, which could represent turning penalties or any other factor which is justified in the user's opinion

The assignment of coefficients varies according to the Class in which a link belongs:

Class	α	β	T _o
I	1	0	L/U _f
II	0	1	W
III	0	0	1

Here, L is a highway link length and U_f is the free-flow speed of traffic on a highway link. The values of a₁ and b₁, which are applicable only for Class I links, are based on experimental data:

$$a_1 = 0.8 \qquad b_1 = 5.0$$

The values of a₂ and b₂, which are applicable for each Class II link, are based upon the absolute requirement that the upstream destination node can service no more traffic than the user-specified value of the maximum "attraction". In addition, these parameters must be chosen so that these Pseudo-Links all offer the same impedance to traffic when their assigned volumes are less than their respective specified maximum attractions.

The weighting factor, W, is computed internally by the software.

² Bureau of Public Roads (1964). Traffic Assignment Manual. U.S. Dept. of Commerce, Urban Planning Division, Washington D.C.

Of course, it is still possible for the assignment algorithm within TRAD to distribute more traffic to a destination node than that node can accommodate. For emergency planning purposes, this is a desirable model feature. Such a result will be flagged by the model to alert the user to the fact that some factor is strongly motivating travelers to move to that destination node, despite its capacity limitations. This factor can take many forms: inadequate highway capacity to other destinations, improper specification of candidate destinations for some of the origins, or some other design inadequacy. The planner can respond by modifying the control tactics, changing the origin-destination distribution pattern, providing more capacity at the overloaded destinations, etc.

APPENDIX C

Traffic Simulation Model: PC-DYNEV

APPENDIX C: TRAFFIC SIMULATION MODEL: PC-DYNEV

A model, named PC-DYNEV, is an adaptation of the TRAFLO Level II simulation model, developed by KLD for the Federal Highway Administration (FHWA). Extensions in scope were introduced to expand the model's domain of application to include all types of highway facilities, to represent the evacuation traffic environment and to increase its computational efficiency. This model produces the extensive set of output Measures of Effectiveness (MOE) shown in Table C-1.

The traffic stream is described internally in the form of statistical flow profiles. These profiles, expressed internally as statistical histograms, describe the platoon structure of the traffic stream on each network link. The simulation logic identifies five types of histograms:

- The ENTRY histogram which describes the platoon flow at the upstream end of the subject link. This histogram is simply an aggregation of the appropriate OUTPUT turn-movement-specific histograms of all feeder links.
- The INPUT histograms which describe the platoon flow pattern arriving at the stop line. These are obtained by first disaggregating the ENTRY histogram into turn-movement-specific component ENTRY histograms. Each such component is modified to account for the platoon dispersion which results as traffic traverses the link. The resulting INPUT histograms reflect the specified turn percentages for the subject link.
- The SERVICE histogram which describes the service rates for each turn movement. These service rates reflect the type of control device servicing traffic on this approach; if it is a signal, then this histogram reflects the specified movement-specific signal phasing. A separate model estimates service rates for each turn movement, given that the control is GO.

These data are provided for each network link and are also aggregated over the entire network.

- The QUEUE histograms that describe the time-varying ebb and growth of the queue formation at the stop line. These histograms are derived from the interaction of the respective IN histograms with the SERVICE histograms.
- The OUT histograms that describe the pattern of traffic discharging from the subject link. Each of the IN histograms is transformed into an OUT histogram by the control applied to the subject link. Each of these OUT histograms is added into the (aggregate) ENTRY histogram of its receiving link. This approach provides the model with the ability to identify the characteristics of each turn-movement-specific component of the traffic stream. Each component is serviced at a different saturation flow rate as is the case in the real world. The logic recognizes when one component of the traffic flow encounters saturation conditions even if the others do not.

Algorithms provide estimates of delay and stops reflecting the interaction of the IN histograms with the SERVICE histograms. The logic also provides for properly treating spillback conditions reflecting queues extending from its host link, into its upstream feeder links.

A valuable feature is the ability to internally generate functions that relate mean speed to density on each link, given user-specified estimates of free-flow speed and saturation service rates for each link. Such relationships are essential in order to simulate traffic operations on freeways and rural roads, where signal control does not exist or where its effect is not the dominant factor in impeding traffic flow.

All traffic simulation models are data-intensive. Table C-2 outlines the input data elements. This input describes:

- Topology of the roadway system
- Geometrics of each roadway component
- Channelization of traffic on each roadway component
- Motorist behavior that, in aggregate, determines the operational performance of vehicles in the system
- Specification of the traffic control devices and their operational characteristics
- Traffic volumes entering and leaving the roadway system
- Traffic composition.

To provide an efficient framework for defining these specifications, the physical environment is represented as a network. The unidirectional links of the network generally represent roadway components: either urban streets or freeway segments. The nodes of the network generally represent urban intersections or points along the freeway where a geometric property changes (e.g. a lane drop, change in grade or ramp).

Figure C-1 is an example of a small network representation. The freeway is defined by the sequence of links, (20,21), (21,22), and (22,23). Links (8001, 19) and (3, 8011) are Entry and Exit links, respectively. An arterial extends from node 3 to node 19 and is partially subsumed within a grid network. Note that links (21,22) and (17,19) are grade-separated.

Table C-1. Measures of Effectiveness Output by PC-DYNEV	
Measure	Units
Travel	Vehicle-Miles and Vehicle-Trips
Moving Time	Vehicle-Minutes
Delay Time	Vehicle-Minutes
Total Travel Time	Vehicle-Minutes
Efficiency: Moving Time/Total Travel Time	Percent
Mean Travel Time per Vehicle	Seconds
Mean Delay per Vehicle	Seconds
Mean Delay per Vehicle-Mile	Seconds/Mile
Mean Speed	Miles/Hour
Mean Occupancy	Vehicles
Mean Saturation	Percent
Vehicle Stops	Percent

Table C-2. Input Requirements for the PC-DYNEV Model

GEOMETRICS

- Links defined by upstream downstream node numbers
- Links lengths
- Number of lanes (up to 6)
- Turn pockets
- Grade
- Network topology defined in terms of target nodes for each receiving link

TRAFFIC VOLUMES

- On all entry links and sink/source nodes stratified by vehicle type: auto, car pool, bus, truck
- Link-specific turn movements

TRAFFIC CONTROL SPECIFICATIONS

- Traffic signals: link-specific, turn movement specific
- Signal control treated as fixed time
- Stop and Yield signs
- Right-turn-on-red (RTOR)
- Route diversion specifications
- Turn restrictions
- Lane control (e.g. lane closure, movement-specific)

DRIVER'S AND OPERATIONAL CHARACTERISTICS

- Drivers (vehicle-specific) response mechanisms: free-flow speed, aggressiveness, discharge headway
- Link-specific mean speed for free-flowing (unimpeded) traffic
- Vehicle-type operational characteristics: acceleration, deceleration
- Such factors as bus route designation, bus station location, dwell time, headway, etc.

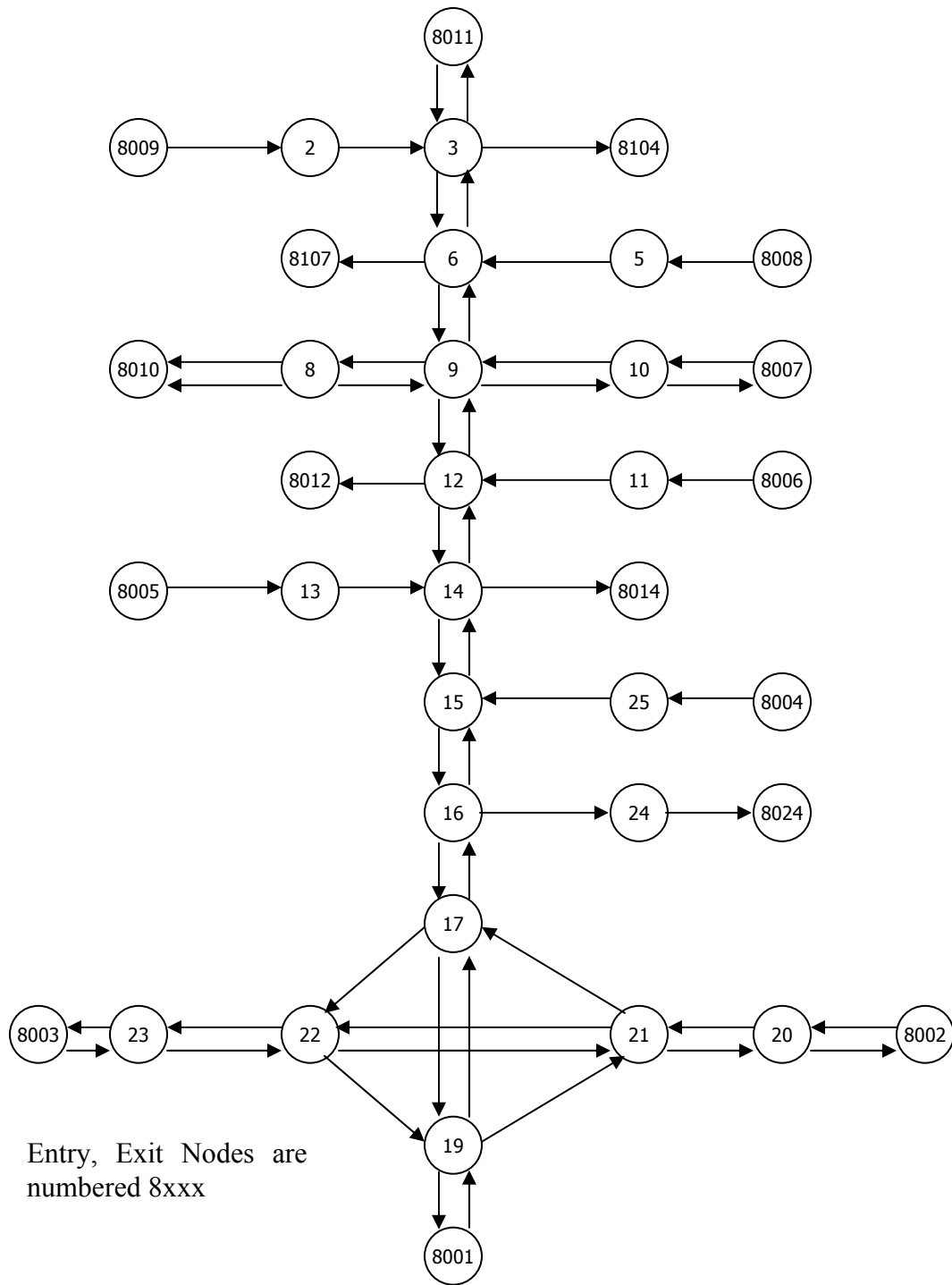


Figure C-1: Representative Analysis Network

APPENDIX D

Detailed Description of Study Procedure

APPENDIX D: DETAILED DESCRIPTION OF STUDY PROCEDURE

This appendix describes the activities that were performed to compute accurate Evacuation Time Estimates (ETE). The individual steps of this effort are represented as a flow diagram in Figure D-1. Each numbered step in the description that follows corresponds to the numbered element in this flow diagram.

Step 1.

The first activity is to obtain data defining the spatial distribution and demographic characteristics of the population within the Emergency Planning Zone (EPZ). These data were obtained from U.S. Census files and from the results of a telephone survey conducted within the EPZ. Transient population data and employee data were obtained through data collection forms submitted by County Emergency Management Offices.

Step 2.

The next activity is to examine large-scale maps of the EPZ in both hard-copy form and using Geographical Information System (GIS) software. These maps were used to identify the analysis highway network and the access roads from each residential and employment development to the adjoining elements of this network. This information is used to plan a field survey of the highway system and later, to assign generated evacuation trips to the correct destinations at the periphery of the EPZ.

Step 3.

The next step is to conduct a physical survey of the roadway system. The purpose of this survey is to determine the geometric properties of the highway elements, the channelization of lanes on each section of roadway, whether there are any turn restrictions or special treatment of traffic at intersections, the type and functioning of traffic control devices and to make the necessary observations needed to estimate realistic values of roadway capacity. A tablet computer equipped with Global Position System (GPS) technology is used during the road survey to accurately record the position of traffic control devices and record other roadway data.

Step 4.

With this information, develop the evacuation network representation of the physical roadway system.

Step 5.

With the network created, proceed to estimate the capacities of each link and to locate the origin centroids where trips would be generated during the evacuation process.

Step 6.

With this information at hand, the data were entered into the computer to create the input stream for the TRaffic Assignment and Distribution (TRAD) model. This model was designed to be compatible with the PC-DYNEV traffic simulation model used later in the

project; the input stream required for one model is entirely compatible with the input stream required by the other. Using a software system developed by KLD named UNITES, the data entry activity is performed interactively directly on the computer.

Step 7.

The TRAD model contains software that performs diagnostic testing of the input stream. These assist the user in identifying and correcting errors in the input stream.

Step 8.

After creating the input stream, execute the TRAD model to compute evacuating traffic routing patterns consistent with the guidelines of NUREG 0654, Appendix 4. The TRAD model also provides estimates of traffic loading on each highway link as well as rough estimates of operational performance.

Step 9.

Critically examine the statistics produced by the TRAD model. This is a labor-intensive activity, requiring the direct participation of skilled engineers who possess the necessary practical experience to interpret the results and to determine the causes of any problems reflected in the results.

Essentially, the approach is to identify those "hot spots" in the network that represent locations where congested conditions are pronounced and to identify the cause of this congestion. This cause can take many forms, either as excess demand due to improper routing, as a shortfall of capacity, or as a quantitative error in the way the physical system was represented in the input stream. This examination leads to one of two conclusions:

- The results are as satisfactory as could be expected at this stage of the analysis process; or
- The input stream must be modified accordingly.

This decision requires, of course, the application of the user's judgment based upon the results obtained in previous applications of the TRAD model and a comparison of the results of this last case with the previous ones. If the results are satisfactory in the opinion of the user, then the process continues with Step 12. Otherwise, proceed to Step 10.

Step 10.

There are many "treatments" available to the user in resolving such problems. These treatments range from decisions to reroute the traffic by imposing turn restrictions where they can produce significant improvements in capacity, changing the control treatment at critical intersections so as to provide improved service for one or more movements, or in prescribing specific treatments for channelizing the flow so as to expedite the movement of traffic along major roadway systems or changing the trip table. Such "treatments" take the form of modifications to the original input stream.

Step 11.

As noted above, the changes to the input stream must be implemented to reflect the modifications undertaken in Step 10. At the completion of this activity, the process returns to Step 8 where the TRAD model is again executed.

Step 12.

The output of the TRAD model includes the computed turn movements for each link. These data are required – and – accessed by the PC-DYNEV simulation model. This step completes the specification of the PC-DYNEV input stream.

Step 13.

After the PC-DYNEV input stream has been debugged, the simulation model is executed to provide detailed estimates, expressed as statistical Measures of Effectiveness (MOE), which describe the detailed performance of traffic operations on each link of the network.

Step 14.

In this step, the detailed output of the simulation model is examined to identify whether problems exist on the network. The results of the simulation model are extremely detailed and far more accurately describe traffic operations than those provided by the TRAD model. Thus, it is possible to identify the cause of any problems by carefully studying the output.

Again, one can implement corrective treatments designed to expedite the flow of traffic on the network in the event that the results are considered to be less efficient than is possible to achieve. If input changes are needed, the analysis process proceeds to Step 15. On the other hand, if the results are satisfactory, then one can decide whether to return to Step 8 to again execute the TRAD model and repeat the whole process, or to accept the simulation results. If there were no changes indicated by the activities of Step 14, because the results were satisfactory, we can then proceed to document them in Step 17. Otherwise, return to Step 8 to determine the effects of the changes implemented in Step 14 on the optimal routing patterns over the network. This determination can be ascertained by executing the TRAD model.

Step 15.

This activity implements the changes in control treatments or in the assignment of destinations associated with one or more origins in order to improve the representation of traffic flow over the network. These treatments can also include the consideration of adding roadway segments to the existing analysis network to improve the representation of the physical system.

Step 16.

Once the treatments have been identified, it is necessary to modify the simulation model input stream accordingly. At the completion of this effort, the procedure returns to Step 13 to execute the simulation model again.

Step 17.

The simulation results are analyzed, tabulated and graphed. The results are then documented, as required.

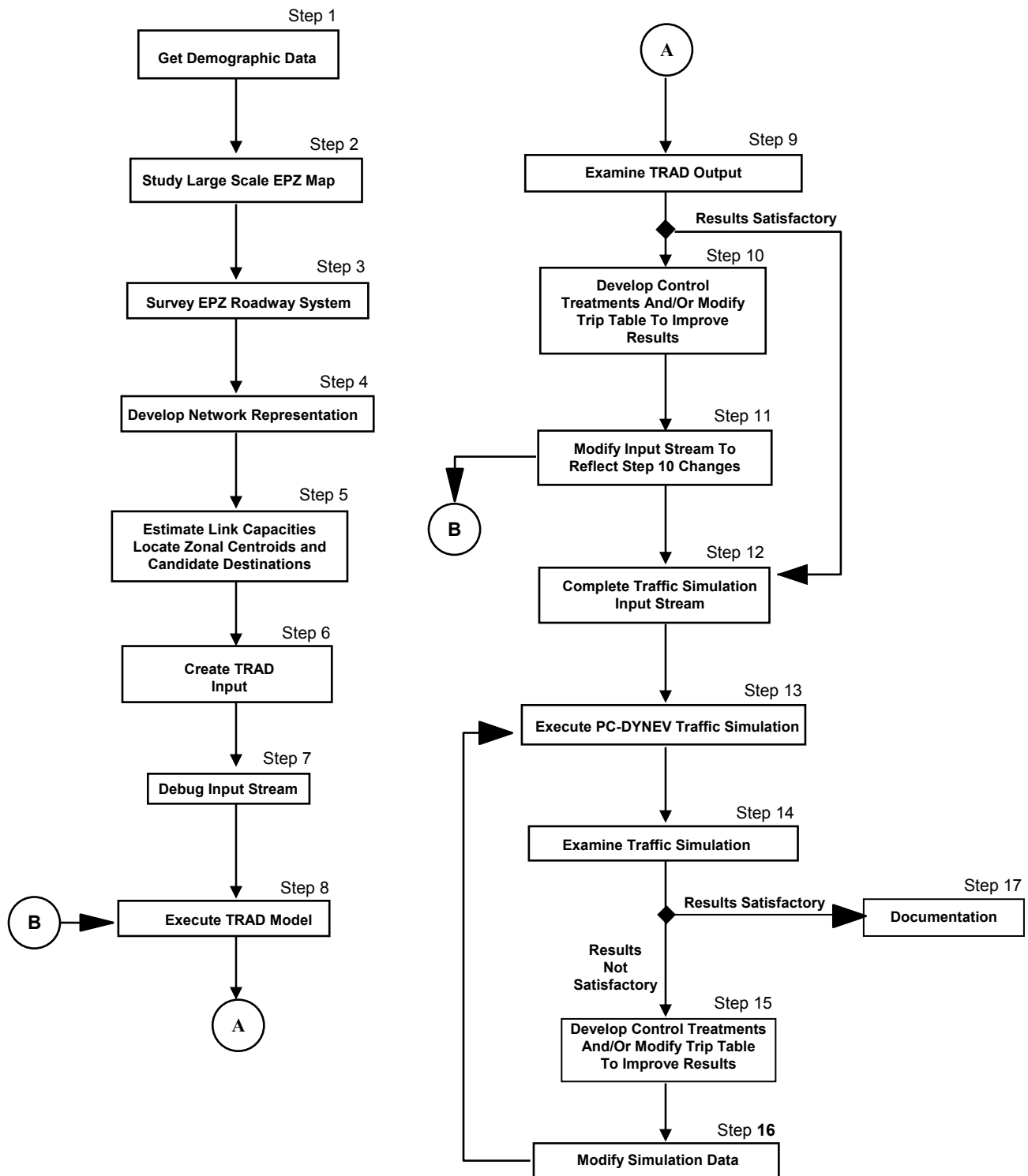


Figure D-1. Flow Diagram of Activities

APPENDIX E

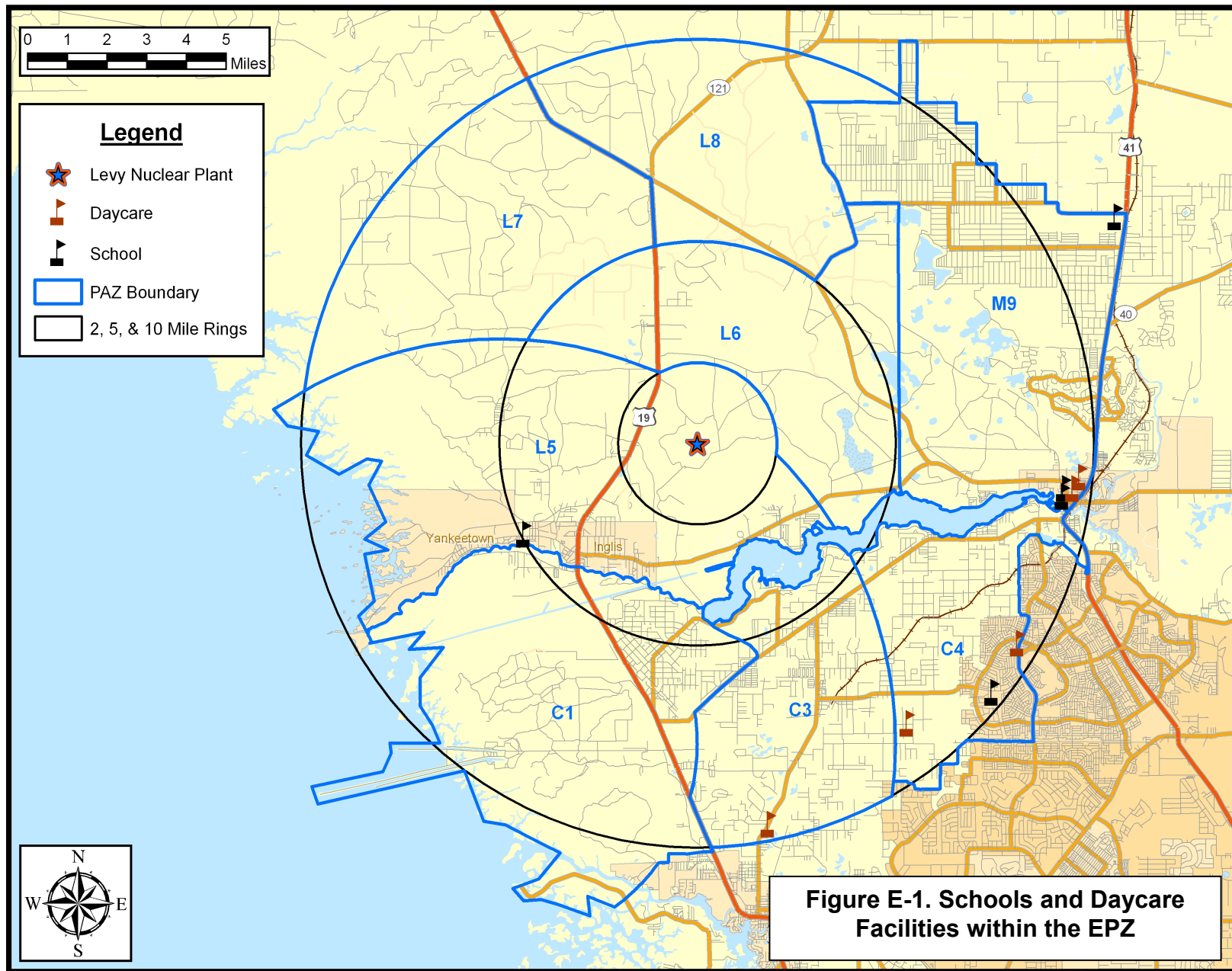
Special Facility Data

APPENDIX E: SPECIAL FACILITY DATA

The following tables list population information, as of July, 2007 for special facilities that are located within the Levy Nuclear Plant EPZ. Special facilities are defined as schools, day care centers, hospitals and other medical care facilities, correctional facilities, and major employers. Transient population data is included in the tables for state parks, county parks, hotels and motels, and other recreational areas. Each table is grouped by county. The location of the facility is described by its straight-line distance (miles) and direction (magnetic bearing) from the nuclear Plant.

Levy EPZ: Lodging (As of July 2007)								
Zone	Distance (miles)	Dir- ection	Facility Name	Street Address	Municipality	Phone	Per- sons	Veh- icles
Levy County								
L5	4.2	SW	Withlacoochee Motel	66 Hwy 19 South	Inglis	(352) 447-2211	30	15
L5	4.9	WSW	Pine Lodge Bed & Breakfast	649 Highway 40 West	Inglis	(352) 447-7463	18	9
Marion County								
M9	9.5	E	Two Rivers Inn	20814 W Pennsylvania Ave	Dunnellon	(352) 489-2309	18	9
M9	9.6	ESE	Angler's Family Resort	12189 S USHY 41	Dunnellon	(352) 489-2397	20	8
M9	9.7	E	Dinner Bell	12084 S Williams St	Dunnellon	(352) 489-2550	48	24
Citrus County								
C1	10.2	S	Comfort Inn	4486 N Suncoast Blvd	Crystal River	(352) 563-5426	94	94
Total							228	159

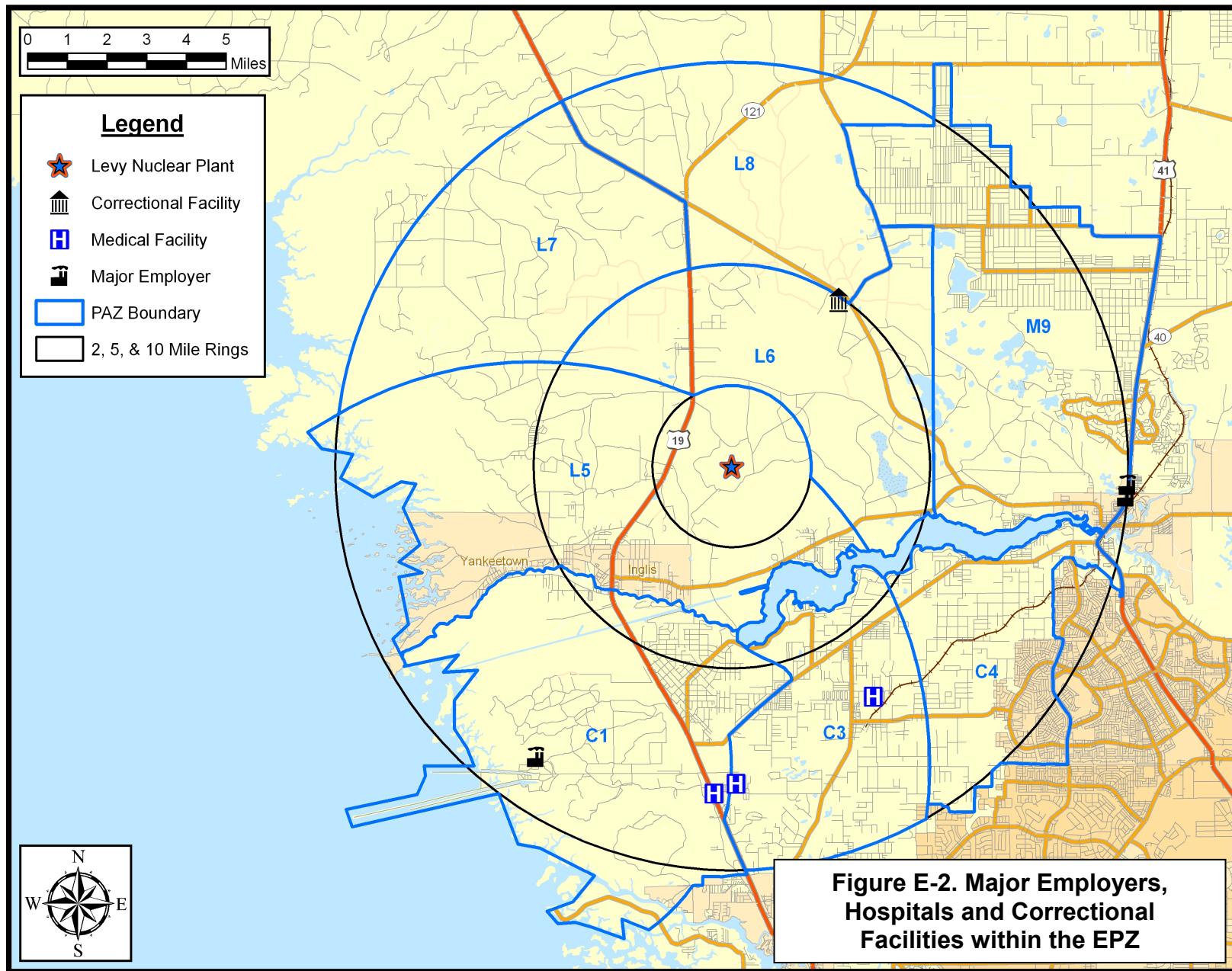
Levy EPZ: Day Care Facilities (As of July 2007)								
Zone	Distance (miles)	Dir- ection	Name	Street Address	Municipality	Phone	Enroll- ment	Empl- oyees
Citrus County								
C4	9.0	SE	Presswood Home Child Care	5721 W Bangkok Ln	Dunnellon	(352) 465-2272	8	1
C4	9.7	ESE	North Oak Christian Daycare	9324 N Elkcarn Blvd	Citrus Springs	(352) 489-3359	30	5
C3	9.9	S	Bright Beginnings Pre-School	4801 N Citrus Avenue	Crystal River	(352) 795-1240	63	10
Marion County								
M9	9.6	E	Ready-Set-Go Learning Center	20660 Powell Rd	Dunnellon	(352) 465-1565	46	5
M9	9.8	E	Building Blocks Learning Center	11364 Robinson Rd	Dunnellon	(352) 489-7972	163	21
Total							310	42



Levy EPZ: Medical Facilities and Assisted Living Facilities (As of July 2007)								
Zone	Distance (miles)	Dir- ection	Name	Street Address	Municipality	Phone	Cap- acity	Empl- oyees
CITRUS COUNTY								
C1	8.4	S	Seven Rivers Regional Medical Center	6201 N Suncoast Blvd	Crystal River	(352) 795-8311	128	190
C1	8.2	S	Crystal Gem Manor Assisted Living	10845 W Gem St	Crystal River	(352) 794-7601	70	9
C3	7.0	SSE	Richard Hoffman Adult Family Home	8620 N Himalayas Pt	Dunnellon	(352) 563-0259	5	3
Total							203	202

Levy EPZ: Correctional Facilities (As of July 2007)								
Zone	Distance (miles)	Dir- ection	Name	Street Address	Municipality	Phone	Max. Capacity	Avg. Capacity
Levy County								
L6	4.7	NE	Forestry Youth Camp	14251 SE Glass Rd	Inglis	(352) 465-8533	40	35
Total							40	35

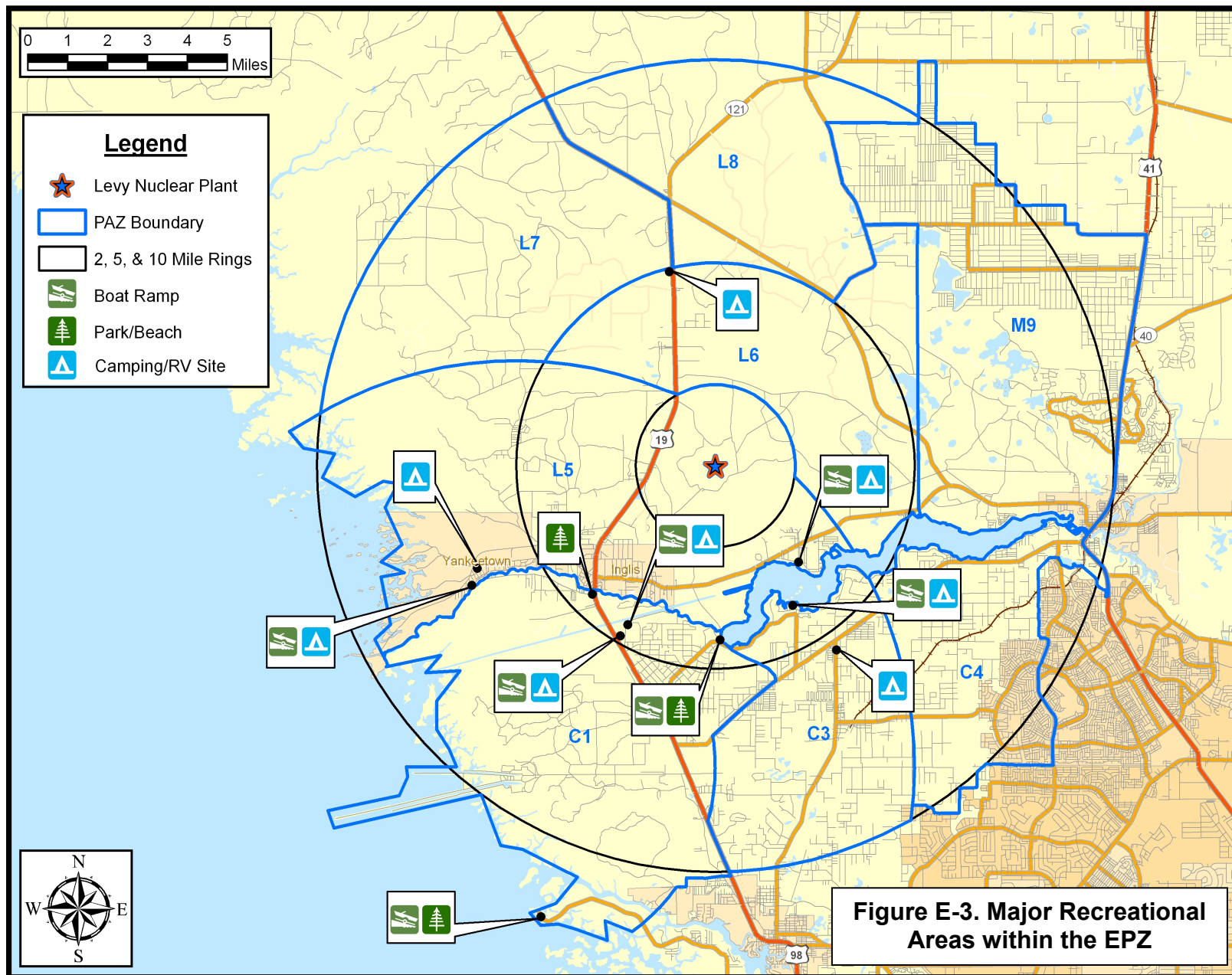
Levy EPZ: Major Employers (As of July 2007)								
Zone	Distance (miles)	Dir- ection	Facility Name	Street Address	Municipality	Phone	Total Employees	Maximum Shift
Levy County								
L5	---	---	Levy Nuclear Plant	TBD	Inglis	TBD	850	700
Citrus County								
C1	8.9	SSW	Crystal River Nuclear Plant	15760 W Powerline St	Crystal River	(352) 563-2358	875	700
Marion County								
M9	10	E	Sweetbay Supermarket	11352 N. Williams St. #305	Dunnellon	(352) 489-6607	60	25
M9	10	E	Super Wal-mart	11012 N. Williams St	Dunnellon	(352) 489-4210	100	50
Total							1,885	1,475



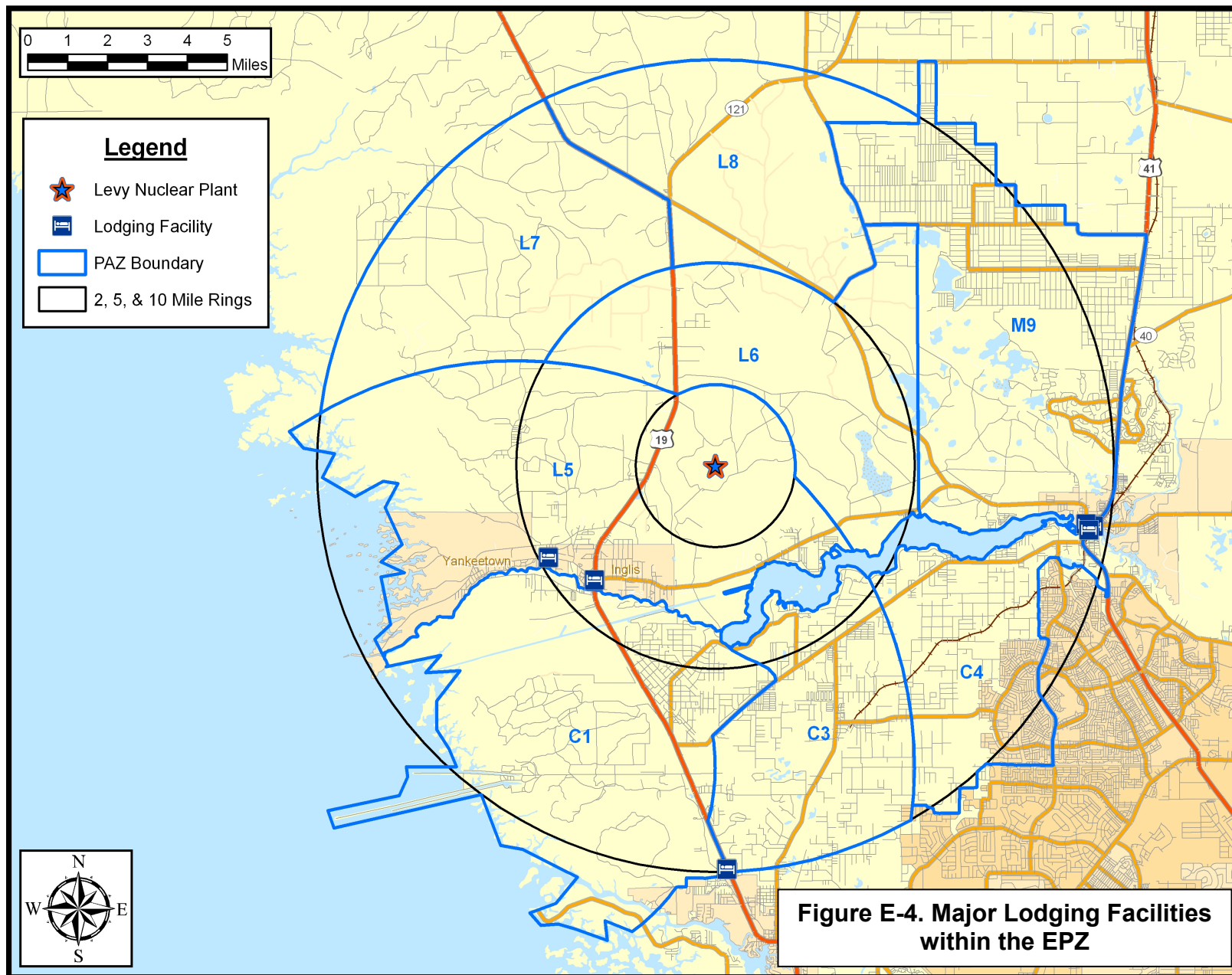
Levy EPZ: Recreational Areas (As of July 2007)

Zone	Distance (miles)	Dir- ection	Facility Name	Street Address	Municipality	Phone	Total People	Total Vehicles
Levy County								
L5	3.4	SE	Big Bass Village	10530 SE 201 St	Inglis	(352) 447-3474	20	10
L6	4.6	NNW	Florida Sheriff's Youth Ranch - Caruth Ranch	14470 SE USHY 19	Inglis	(352) 447-2259	100	30
L5	6.6	WSW	Cattail Creek	41 Cattail Lane	Yankeetown	(352) 447-3050	20	20
L5	6.9	WSW	B's Marina & Campground	6621 Riverside Dr	Yankeetown	(352) 447-5888	25	15
Citrus County								
C1	12.0	SW	Fort Island Gulf Beach	16000 W Fort Island Trail	Crystal River	(352) 527-7678	100	50
C3	4.2	SSE	Lake Rousseau RV Park	10811 N Coveview Terrace	Crystal River	(352) 795-6336	250	150
C1	4.6	S	Inglis Dam Recreation Area*	Riverwood Drive	Crystal River	(352) 447-1720	90	60
C1	4.6	SW	Big Oaks River Resort	14035 West River Rd	Inglis	(352) 447-5333	40	23
C1	4.8	SSW	Withlacoochee Bay Trail / Felburn Trailhead	10201 N Suncoast Blvd	Crystal River	(352) 447-1720	200	100
C1	5.1	SSW	Nature Coast Landings	10173 N Suncoast Blvd	Crystal River	(352) 447-2299	200	200
C3	5.7	SSE	Quail Roost RV Campground	9835 N Citrus Ave	Crystal River	(352) 563-0404	144	72
Total							1,189	730

*Detailed data was not available, the total people and vehicles are assumed.



Levy EPZ: Lodging (As of July 2007)								
Zone	Distance (miles)	Dir- ection	Facility Name	Street Address	Municipality	Phone	Per- sons	Veh- icles
Levy County								
L5	4.2	SW	Withlacoochee Motel	66 Hwy 19 South	Inglis	(352) 447-2211	30	15
L5	4.9	WSW	Pine Lodge Bed & Breakfast	649 Highway 40 West	Inglis	(352) 447-7463	18	9
Marion County								
M9	9.5	E	Two Rivers Inn	20814 W Pennsylvania Ave	Dunnellon	(352) 489-2309	18	9
M9	9.6	ESE	Angler's Family Resort	12189 S USHY 41	Dunnellon	(352) 489-2397	20	8
M9	9.7	E	Dinner Bell	12084 S Williams St	Dunnellon	(352) 489-2550	48	24
Citrus County								
C1	10.2	S	Comfort Inn	4486 N Suncoast Blvd	Crystal River	(352) 563-5426	94	94
Total							228	159



APPENDIX F

Telephone Survey

APPENDIX F: TELEPHONE SURVEY

1. INTRODUCTION

The development of evacuation time estimates for the Emergency Planning Zone (EPZ) of the Levy Nuclear Plant requires the identification of travel patterns, car ownership and household size of the population within the EPZ. Demographic information is obtained from Census data. The use of this data has several limitations when applied to emergency planning. First, the census data do not encompass the range of information needed to identify the time required for preliminary activities that must be undertaken prior to evacuating the area. Secondly, the census data do not contain attitudinal responses needed from the population of the EPZ and consequently may not accurately represent the anticipated behavioral characteristics of the evacuating populace.

These concerns are addressed by a telephone survey. The survey is designed to elicit information from the public concerning family demographics and estimates of response times to well defined events. The design of the survey includes a limited number of questions of the form "What would you do if ...?" and other questions regarding activities with which the respondent is familiar ("How long does it take you to ...?").

2. SURVEY INSTRUMENT AND SAMPLING PLAN

Attachment A presents the final survey instrument. A draft of the instrument was submitted for comment. Comments were received and the survey instrument was modified.

Following the completion of the instrument, a sampling plan was developed. A sample size of approximately 550 completed survey forms yields results with an acceptable sampling error. The sample must be drawn from the EPZ population. Consequently, a list of EPZ zip codes was developed. This list is shown in Table F-1. Along with each zip code, an estimate of the population in each area was determined, based on average household size provided by Census data. The proportional number of the desired completed survey interviews for each area was identified, as shown in Table F-1.

Table F-1. Survey Sampling Plan			
Levy Telephone Survey			
Zip Code	Population in ZIP (2000)	Households in ZIP (2000)	Required Sample
34428	9,479	3,779	150
34429	9,528	3,233	129
34431	7,336	3,176	127
34433	4,583	1,691	68
34449	3,954	1,979	79
Total:	34,880	13,858	550
Average Household Size			2.52
Total Sample Required			550

A combined telephone survey was performed for the existing Crystal River Nuclear Plant and the proposed Levy Nuclear Plant because of the close proximity of the facilities and the similar EPZ demographics.

3. SURVEY RESULTS

The results of the survey fall into two categories. First, the household demographics of the area can be identified. Demographic information includes such factors as household size, automobile ownership, and automobile availability. The distributions of the time to perform certain pre-evacuation activities are the second category of survey results. These data are processed to develop the trip generation distributions used in the evacuation modeling effort.

Household Demographic Results

Household Size

Figure F-1 presents the distribution of household size within the EPZ. The average household contains 2.25 people. The estimated household size (2.52 persons) used to determine the survey sample (Table F-1) was drawn from Census data. The difference in the factors can be described in the rapid population growth and a likely shift in demographics within the EPZ since the 2000 Census.

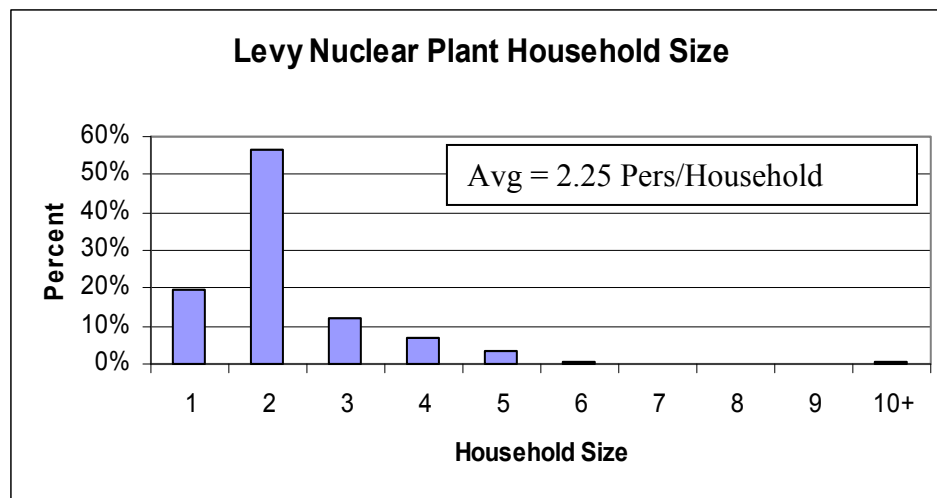


Figure F-1. Household Size in the EPZ

Automobile Ownership

The average number of automobiles per household in the EPZ is 1.82. The distribution of automobile ownership is presented in Figure F-2. Figures F-3 and F-4 present the automobile availability by household size; approximately 4.5 percent of households do not have access to an automobile. The majority of households without access to a car are single person households; nearly all households of 2 or more people have access to at least one vehicle.

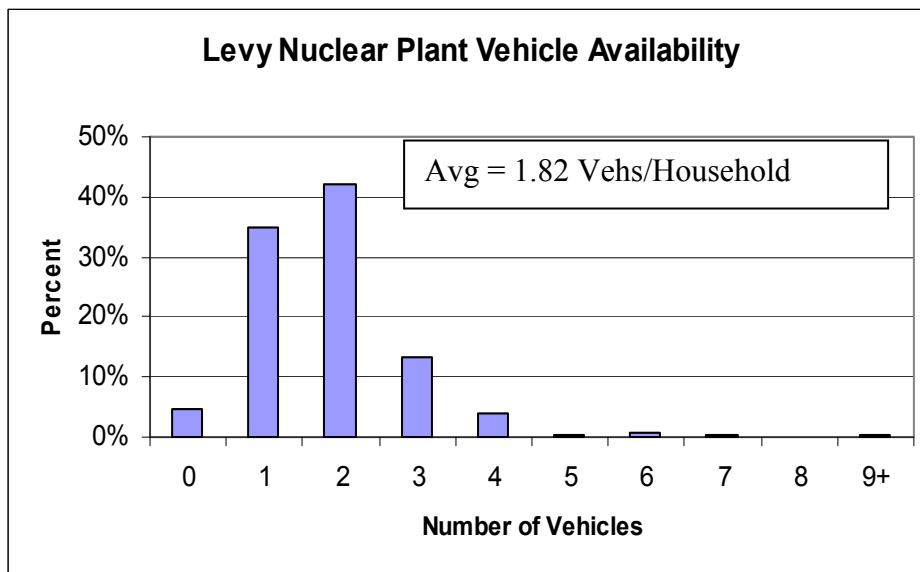


Figure F-2. Household Vehicle Availability

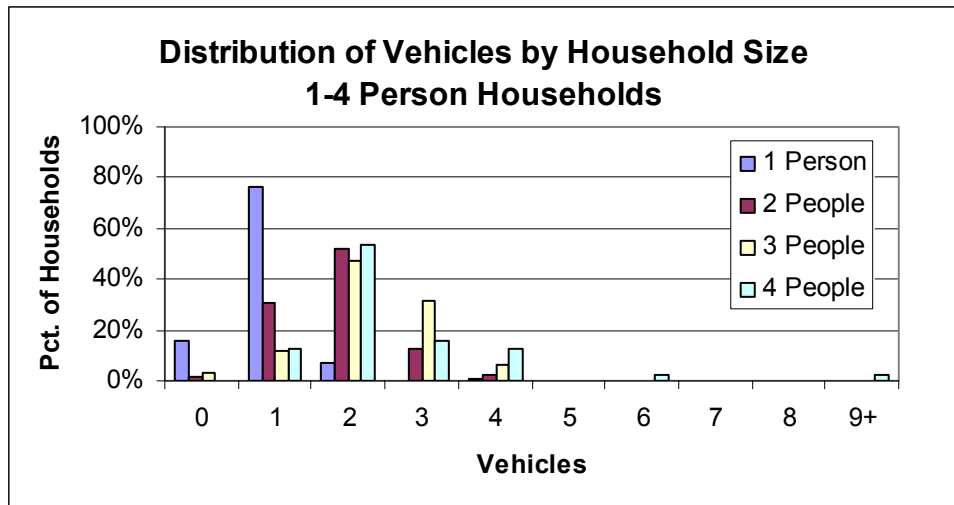


Figure F-3. Vehicle Availability – 1 to 4 Person Households

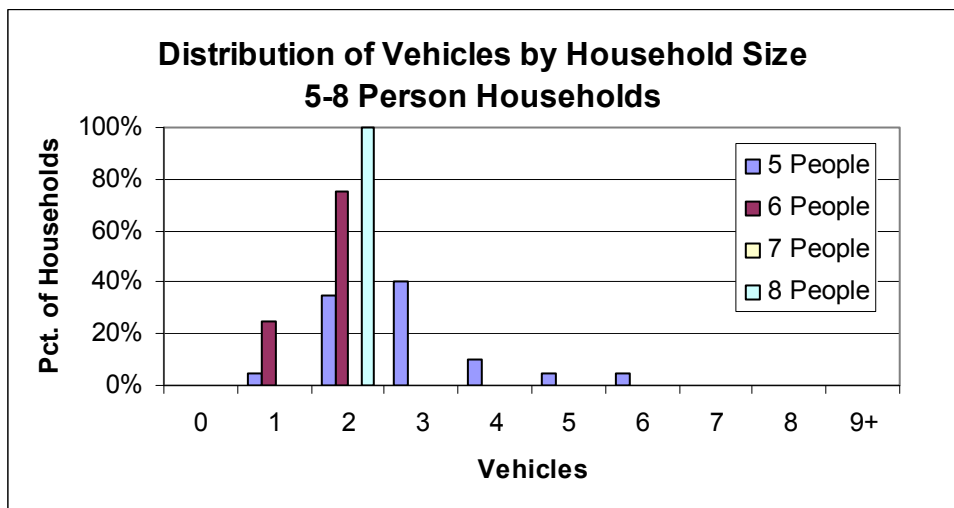


Figure F-4. Vehicle Availability – 5 to 8 Person Households

Schoolchildren

The average number of schoolchildren per household identified by the survey is 0.36. Figure F-5 presents the distribution of schoolchildren.

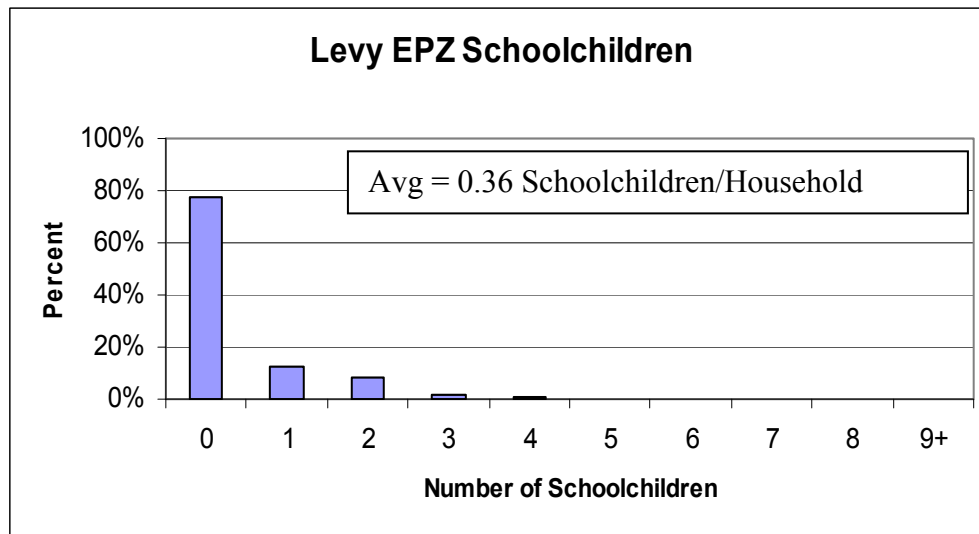


Figure F-5. Schoolchildren in Households

Commuters

Figure F-6 presents the distribution of the number of commuters in each household. The data shows an average of 0.70 commuters in each household in the EPZ.

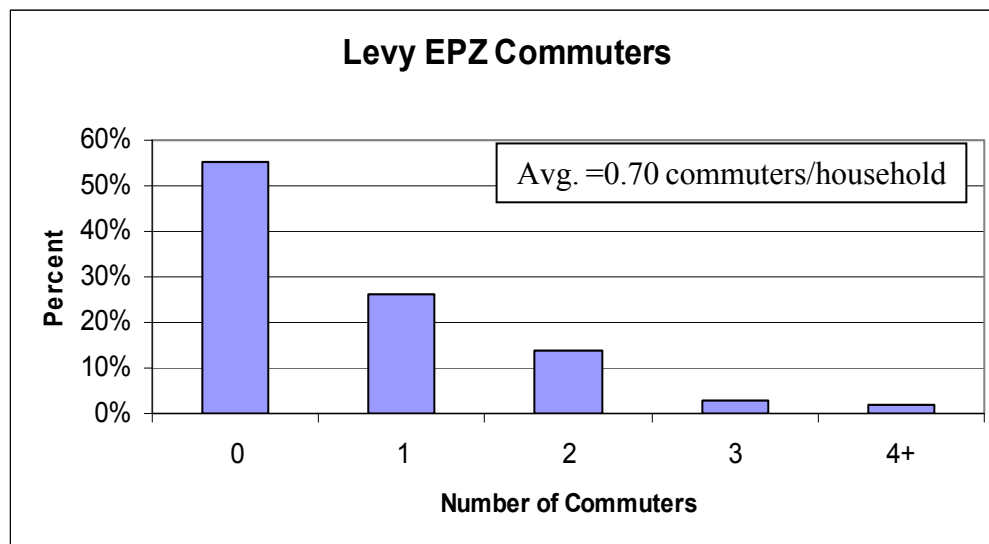


Figure F-6. Commuters in Households in the EPZ

Commuter Travel Modes

Figure F-7 presents the mode of travel that commuters use on a daily basis. The vast majority of commuters use their private automobiles to travel to work or school.

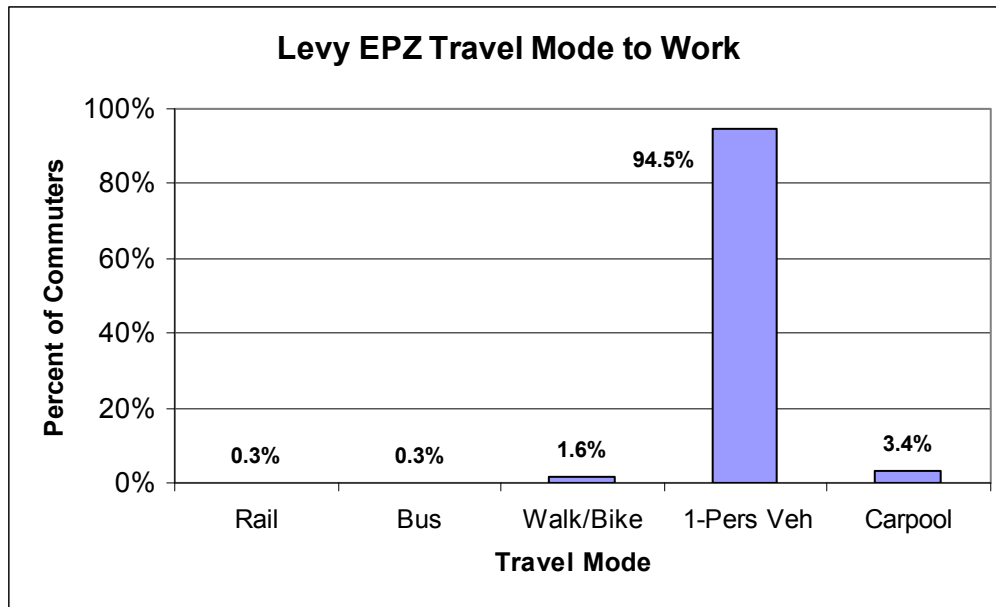


Figure F-7. Modes of Travel to Work by EPZ Residents

Evacuation Response

Several questions were asked which are used to gauge the population's response to an emergency. The first of these asked "How many of the vehicles that are usually available to the household would your family use during an evacuation?" The response is shown in Figure F-8. On average, 1.37 vehicles per household would be used for evacuation purposes.

The second evacuation response question asked was "When the commuters are away from home, is there a vehicle at home that is available for evacuation during an emergency?" Of the survey participants who responded, 69 percent said that there was another vehicle available to evacuate, while 31 percent answered that there would be no vehicle available for evacuation.

The third evacuation response question was "Would your family await the return of other family members prior to evacuating the area?" Of the survey participants who responded, 59 percent said they would await the return of other family members before evacuating and 41 percent indicated that they would not await the return of other family members.

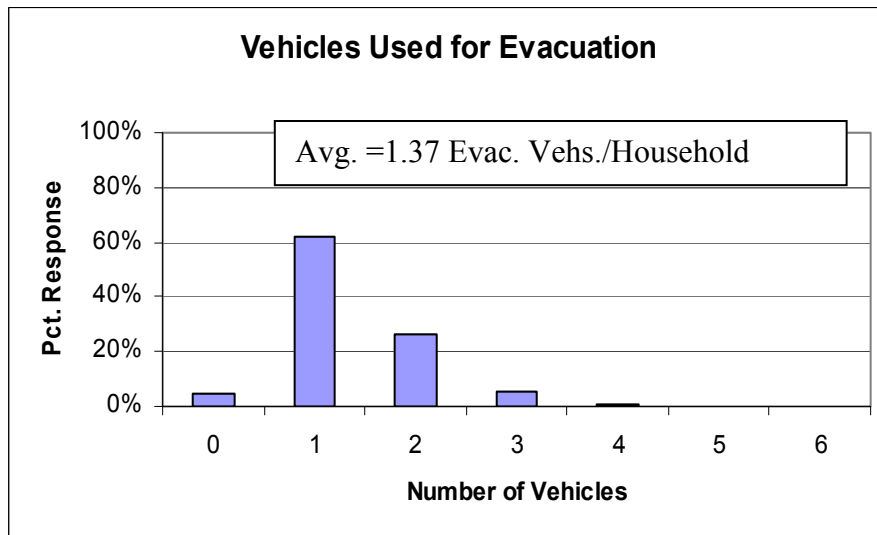


Figure F-8. Number of Vehicles Used for Evacuation

Time Distribution Results

The survey asked several questions about the amount of time it takes to perform certain pre-evacuation activities. These activities involve actions taken by residents during the course of their day-to-day lives. Thus, the answers fall within the realm of the responder's experience.

How long does it take the commuter to complete preparation for leaving work?

Figure F-9 presents the cumulative distribution. In all cases, the activity is completed by about 120 minutes. Fifty four percent can leave within 15 minutes.

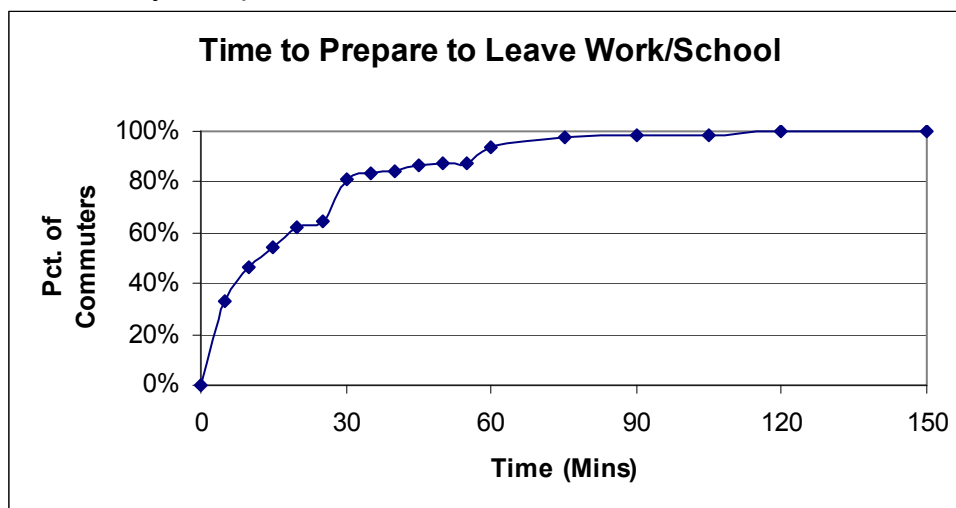


Figure F-9. Time Required to Prepare to Leave Work/School

How long would it take the commuter to travel home?

Figure F-10 presents the work to home travel time. Over 90 percent of commuters can arrive home within about 45 minutes of leaving work; nearly all within 90 minutes.

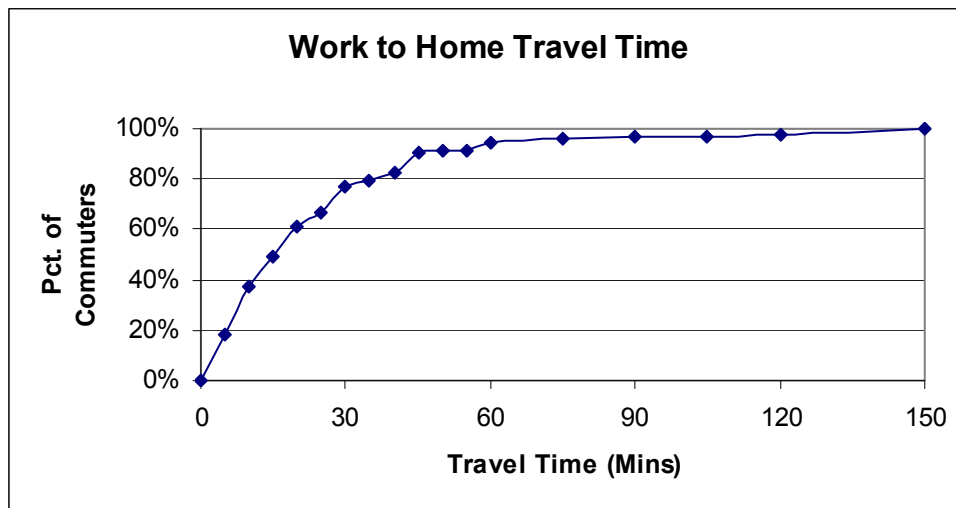


Figure F-10. Work to Home Travel Time

How long would it take the family to pack clothing, secure the house, and load the car?

Figure F-11 presents the time required to prepare for leaving on an evacuation trip. In many ways this activity mimics a family's preparation for a short holiday or weekend away from home. Hence, the responses represent the experience of the responder in performing similar activities.

The distribution shown in Figure F-11 has a long "tail." Approximately 90 percent of households can be ready to leave home within two hours; nearly all households can be ready to leave within four hours.

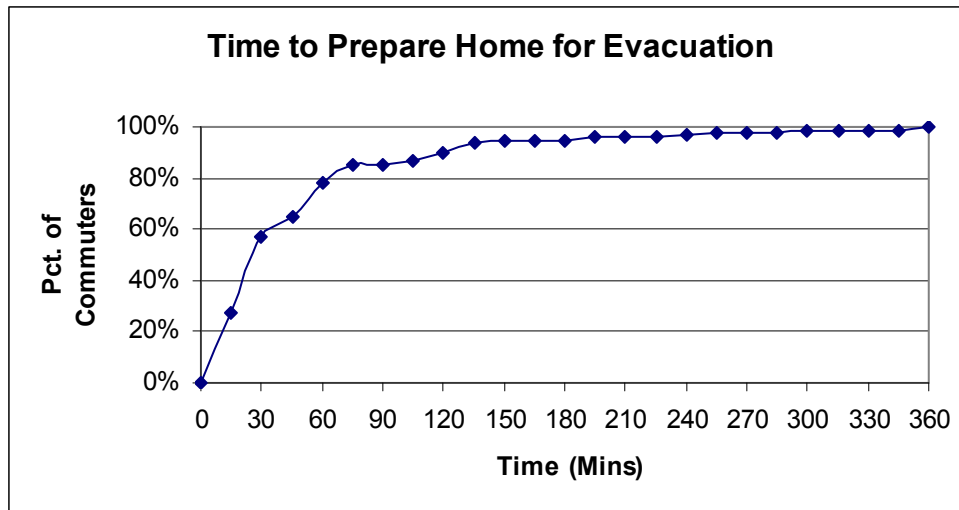


Figure F-11. Time to Prepare Home for Evacuation

4. CONCLUSIONS

The telephone survey provides valuable, relevant data that have been used to quantify “mobilization time” which can influence evacuation time estimates.

ATTACHMENT A

Telephone Survey Instrument

Survey Instrument

Hello, my name is _____ and I'm working on a survey being made for [insert marketing firm name] designed to identify local travel patterns in your area. The information obtained will be used in a traffic engineering study and in connection with an update of the county's emergency response plans. Your participation in this survey will greatly enhance the county's emergency preparedness program.

<u>COL. 1</u>	Unused
<u>COL. 2</u>	Unused
<u>COL. 3</u>	Unused
<u>COL. 4</u>	Unused
<u>COL. 5</u>	Unused

<u>Sex</u>	<u>COL. 8</u>
	1 Male
	2 Female

INTERVIEWER: ASK TO SPEAK TO THE HEAD OF HOUSEHOLD OR THE SPOUSE OF THE HEAD OF HOUSEHOLD.
(Terminate call if not a residence)

DO NOT ASK:

1A. Record area code. To Be Determined

COL. 9-11

1B. Record exchange number. To Be Determined

COL. 12-14

2. What is your home Zip Code

Col. 15-19

3. In total, how many cars, or other vehicles are usually available to the household?
(DO NOT READ ANSWERS.)

<u>COL. 20</u>
1 ONE
2 TWO
3 THREE
4 FOUR
5 FIVE
6 SIX
7 SEVEN
8 EIGHT
9 NINE OR MORE
0 ZERO (NONE)
X REFUSED

4. How many people usually live in this household? (DO NOT READ ANSWERS.)

<u>COL. 21</u>	<u>COL. 22</u>
1 ONE	0 TEN
2 TWO	1 ELEVEN
3 THREE	2 TWELVE
4 FOUR	3 THIRTEEN
5 FIVE	4 FOURTEEN
6 SIX	5 FIFTEEN
7 SEVEN	6 SIXTEEN
8 EIGHT	7 SEVENTEEN
9 NINE	8 EIGHTEEN
	9 NINETEEN OR MORE
	X REFUSED

5. How many children living in this household go to local public, private, or parochial schools?
(DO NOT READ ANSWERS.)

COL. 23

0 ZERO
1 ONE
2 TWO
3 THREE
4 FOUR
5 FIVE
6 SIX
7 SEVEN
8 EIGHT
9 NINE OR MORE
X REFUSED

6. How many people in the household commute to a job, or to college, at least 4 times a week?

COL. 24

	SKIP TO
0 ZERO	Q. 12
1 ONE	Q. 7
2 TWO	Q. 7
3 THREE	Q. 7
4 FOUR OR MORE	Q. 7
5 DON'T KNOW/REFUSED	Q. 12

INTERVIEWER: For each person identified in Question 6, ask Questions 7, 8, 9, and 10.

7. Thinking about commuter #1, how does that person usually travel to work or college? (REPEAT QUESTION FOR EACH COMMUTER.)

	Commuter #1 COL. 25	Commuter #2 COL. 26	Commuter #3 COL. 27	Commuter #4 COL. 28
Rail	1	1	1	1
Bus	2	2	2	2
Walk/Bicycle	3	3	3	3
Driver Car/Van	4	4	4	4
Park & Ride (Car/Rail, Xpress_bus)	5	5	5	5
Driver Carpool-2 or more people	6	6	6	6
Passenger Carpool-2 or more people	7	7	7	7
Taxi	8	8	8	8
Refused	9	9	9	9

8. What is the name of the city, town or community in which Commuter #1 works or attends school? (REPEAT QUESTION FOR EACH COMMUTER.) (FILL IN ANSWER.)

COMMUTER #1			COMMUTER #2			COMMUTER #3			COMMUTER #4		
City/Town	State		City/Town	State		City/Town	State		City/Town	State	
COL. 29	COL. 30	COL. 31	COL. 32	COL. 33	COL. 34	COL. 35	COL. 36	COL. 37	COL. 38	COL. 39	COL. 40
0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9

9. How long would it take Commuter #1 to travel home from work or college?
(REPEAT QUESTION FOR EACH COMMUTER.) (DO NOT READ ANSWERS.)

<u>COMMUTER #1</u>	
<u>COL. 41</u>	<u>COL. 42</u>
1 5 MINUTES OR LESS	1 46-50 MINUTES
2 6-10 MINUTES	2 51-55 MINUTES
3 11-15 MINUTES	3 56 - 1 HOUR
4 16-20 MINUTES	4 OVER 1 HOUR, BUT
5 21-25 MINUTES	LESS THAN 1 HOUR
6 26-30 MINUTES	15 MINUTES
7 31-35 MINUTES	5 BETWEEN 1 HOUR
8 36-40 MINUTES	16 MINUTES AND 1
9 41-45 MINUTES	HOUR 30 MINUTES
	6 BETWEEN 1 HOUR
	31 MINUTES AND 1
	HOUR 45 MINUTES
	7 BETWEEN 1 HOUR
	46 MINUTES AND
	2 HOURS
	8 OVER 2 HOURS
	(SPECIFY _____)
	9
	0
	X DON'T KNOW/REFUSED

<u>COMMUTER #2</u>	
<u>COL. 43</u>	<u>COL. 44</u>
1 5 MINUTES OR LESS	1 46-50 MINUTES
2 6-10 MINUTES	2 51-55 MINUTES
3 11-15 MINUTES	3 56 - 1 HOUR
4 16-20 MINUTES	4 OVER 1 HOUR, BUT
5 21-25 MINUTES	LESS THAN 1 HOUR
6 26-30 MINUTES	15 MINUTES
7 31-35 MINUTES	5 BETWEEN 1 HOUR
8 36-40 MINUTES	16 MINUTES AND 1
9 41-45 MINUTES	HOUR 30 MINUTES
	6 BETWEEN 1 HOUR
	31 MINUTES AND 1
	HOUR 45 MINUTES
	7 BETWEEN 1 HOUR
	46 MINUTES AND
	2 HOURS
	8 OVER 2 HOURS
	(SPECIFY _____)
	9
	0
	X DON'T KNOW/REFUSED

<u>COMMUTER #3</u>	
<u>COL. 45</u>	<u>COL. 46</u>
1 5 MINUTES OR LESS	1 46-50 MINUTES
2 6-10 MINUTES	2 51-55 MINUTES
3 11-15 MINUTES	3 56 - 1 HOUR
4 16-20 MINUTES	4 OVER 1 HOUR, BUT
5 21-25 MINUTES	LESS THAN 1 HOUR
6 26-30 MINUTES	15 MINUTES
7 31-35 MINUTES	5 BETWEEN 1 HOUR
8 36-40 MINUTES	16 MINUTES AND 1
9 41-45 MINUTES	HOUR 30 MINUTES
	6 BETWEEN 1 HOUR
	31 MINUTES AND 1
	HOUR 45 MINUTES
	7 BETWEEN 1 HOUR
	46 MINUTES AND
	2 HOURS
	8 OVER 2 HOURS
	(SPECIFY _____)
	9
	0
	X DON'T KNOW/REFUSED

<u>COMMUTER #4</u>	
<u>COL. 47</u>	<u>COL. 48</u>
1 5 MINUTES OR LESS	1 46-50 MINUTES
2 6-10 MINUTES	2 51-55 MINUTES
3 11-15 MINUTES	3 56 - 1 HOUR
4 16-20 MINUTES	4 OVER 1 HOUR, BUT
5 21-25 MINUTES	LESS THAN 1 HOUR
6 26-30 MINUTES	15 MINUTES
7 31-35 MINUTES	5 BETWEEN 1 HOUR
8 36-40 MINUTES	16 MINUTES AND 1
9 41-45 MINUTES	HOUR 30 MINUTES
	6 BETWEEN 1 HOUR
	31 MINUTES AND 1
	HOUR 45 MINUTES
	7 BETWEEN 1 HOUR
	46 MINUTES AND
	2 HOURS
	8 OVER 2 HOURS
	(SPECIFY _____)
	9
	0
	X DON'T KNOW/REFUSED

10. Approximately how long does it take Commuter #1 to complete preparation for leaving work or college prior to starting the trip home? (REPEAT QUESTION FOR EACH COMMUTER.)
(DO NOT READ ANSWERS.)

<u>COMMUTER #1</u>		<u>COMMUTER #2</u>	
<u>COL. 49</u>	<u>COL. 50</u>	<u>COL. 51</u>	<u>COL. 52</u>
1 5 MINUTES OR LESS	1 46-50 MINUTES	1 5 MINUTES OR LESS	1 46-50 MINUTES
2 6-10 MINUTES	2 51-55 MINUTES	2 6-10 MINUTES	2 51-55 MINUTES
3 11-15 MINUTES	3 56 - 1 HOUR	3 11-15 MINUTES	3 56 - 1 HOUR
4 16-20 MINUTES	4 OVER 1 HOUR, BUT	4 16-20 MINUTES	4 OVER 1 HOUR, BUT
5 21-25 MINUTES	LESS THAN 1 HOUR	5 21-25 MINUTES	LESS THAN 1 HOUR
6 26-30 MINUTES	15 MINUTES	6 26-30 MINUTES	15 MINUTES
7 31-35 MINUTES	5 BETWEEN 1 HOUR	7 31-35 MINUTES	5 BETWEEN 1 HOUR
8 36-40 MINUTES	16 MINUTES AND 1	8 36-40 MINUTES	16 MINUTES AND 1
9 41-45 MINUTES	HOUR 30 MINUTES	9 41-45 MINUTES	HOUR 30 MINUTES
	6 BETWEEN 1 HOUR		6 BETWEEN 1 HOUR
	31 MINUTES AND 1		31 MINUTES AND 1
	HOUR 45 MINUTES		HOUR 45 MINUTES
	7 BETWEEN 1 HOUR		7 BETWEEN 1 HOUR
	46 MINUTES AND		46 MINUTES AND
	2 HOURS		2 HOURS
	8 OVER 2 HOURS		8 OVER 2 HOURS
	(SPECIFY _____)		(SPECIFY _____)
	9		9
	0		0
	X DON'T KNOW/REFUSED		X DON'T KNOW/REFUSED

<u>COMMUTER #3</u>		<u>COMMUTER #4</u>	
<u>COL. 53</u>	<u>COL. 54</u>	<u>COL. 55</u>	<u>COL. 56</u>
1 5 MINUTES OR LESS	1 46-50 MINUTES	1 5 MINUTES OR LESS	1 46-50 MINUTES
2 6-10 MINUTES	2 51-55 MINUTES	2 6-10 MINUTES	2 51-55 MINUTES
3 11-15 MINUTES	3 56 - 1 HOUR	3 11-15 MINUTES	3 56 - 1 HOUR
4 16-20 MINUTES	4 OVER 1 HOUR, BUT	4 16-20 MINUTES	4 OVER 1 HOUR, BUT
5 21-25 MINUTES	LESS THAN 1 HOUR	5 21-25 MINUTES	LESS THAN 1 HOUR
6 26-30 MINUTES	15 MINUTES	6 26-30 MINUTES	15 MINUTES
7 31-35 MINUTES	5 BETWEEN 1 HOUR	7 31-35 MINUTES	5 BETWEEN 1 HOUR
8 36-40 MINUTES	16 MINUTES AND 1	8 36-40 MINUTES	16 MINUTES AND 1
9 41-45 MINUTES	HOUR 30 MINUTES	9 41-45 MINUTES	HOUR 30 MINUTES
	6 BETWEEN 1 HOUR		6 BETWEEN 1 HOUR
	31 MINUTES AND 1		31 MINUTES AND 1
	HOUR 45 MINUTES		HOUR 45 MINUTES
	7 BETWEEN 1 HOUR		7 BETWEEN 1 HOUR
	46 MINUTES AND		46 MINUTES AND
	2 HOURS		2 HOURS
	8 OVER 2 HOURS		8 OVER 2 HOURS
	(SPECIFY _____)		(SPECIFY _____)
	9		9
	0		0
	X DON'T KNOW/REFUSED		X DON'T KNOW/REFUSED

11. When the commuters are away from home, is there a vehicle at home that is available for evacuation during any emergency?

Col. 57
 1 Yes
 2 No
 3 Don't Know/Refused

12. Would you await the return of family members prior to evacuating the area?

Col. 58
 1 Yes
 2 No
 3 Don't Know/Refused

-
13. How many of the vehicles that are usually available to the household would your family use during an evacuation? (DO NOT READ ANSWERS.)

COL. 59

1 ONE
2 TWO
3 THREE
4 FOUR
5 FIVE
6 SIX
7 SEVEN
8 EIGHT
9 NINE OR MORE
0 ZERO (NONE)
X REFUSED

-
14. How long would it take the family to pack clothing, secure the house, load the car, and complete preparations prior to evacuating the area? (DO NOT READ ANSWERS.)

COL. 60

1 LESS THAN 15 MINUTES
2 15-30 MINUTES
3 31-45 MINUTES
4 46 MINUTES - 1 HOUR
5 1 HOUR TO 1 HOUR 15 MINUTES
6 1 HOUR 16 MINUTES TO 1 HOUR 30 MINUTES
7 1 HOUR 31 MINUTES TO 1 HOUR 45 MINUTES
8 1 HOUR 46 MINUTES TO 2 HOURS
9 2 HOURS TO 2 HOURS 15 MINUTES
0 2 HOURS 16 MINUTES TO 2 HOURS 30 MINUTES
X 2 HOURS 31 MINUTES TO 2 HOURS 45 MINUTES
Y 2 HOURS 46 MINUTES TO 3 HOURS

COL. 61

1 3 HOURS TO 3 HOURS 15 MINUTES
2 3 HOURS 16 MINUTES TO 3 HOURS 30 MINUTES
3 3 HOURS 31 MINUTES TO 3 HOURS 45 MINUTES
4 3 HOURS 46 MINUTES TO 4 HOURS
5 4 HOURS TO 4 HOURS 15 MINUTES
6 4 HOURS 16 MINUTES TO 4 HOURS 30 MINUTES
7 4 HOURS 31 MINUTES TO 4 HOURS 45 MINUTES
8 4 HOURS 46 MINUTES TO 5 HOURS
9 5 HOURS TO 5 HOURS 15 MINUTES
0 5 HOURS 16 MINUTES TO 5 HOURS 30 MINUTES
X 5 HOURS 31 MINUTES TO 5 HOURS 45 MINUTES
Y 5 HOURS 46 MINUTES TO 6 HOURS

COL. 62

1 DON'T KNOW

-
15. Would you take household pets with you if you were asked to evacuate the area?

Col. 58

1 Yes
2 No
3 Don't Know/Refused

Thank you very much.

(TELEPHONE NUMBER CALLED)

If requested:

For Additional information

Contact your County Emergency Management Office

ANNEX B
Code of Data Collection Standards With Notes Section
Market Research Association

P.O. Box 230 • Rocky Hill, CT 06067-0230 • 860-257-4008 • Fax: 860-257-3990

Code Approved May 1997

Notes Added September 1999

RESPONSIBILITIES TO RESPONDENTS

Data Collection Companies ...

1. will make factually correct statements to secure cooperation and will honor promises to respondents, whether verbal or written;
2. will not use information to identify respondents without the permission of the respondent, except to those who check the data or are involved in processing the data. If such permission is given, it must be recorded by the interviewer at the time the permission is secured;
3. will respect the respondent's right to withdraw or to refuse to cooperate at any stage of the study and not use any procedure or technique to coerce or imply that cooperation is obligatory;
4. will obtain and document respondent consent when it is known that the name and address or identity of the respondent may be passed to a third party for legal or other purposes, such as audio or video recordings;
5. will obtain permission and document consent of a parent, legal guardian or responsible guardian before interviewing children 12 years old or younger;
6. will give respondents the opportunity to refuse to participate in the research when there is a possibility they may be identifiable even without the use of their name or address (e.g., because of the size of the population being sampled).

Interviewers ...

1. will treat the respondent with respect and not influence him or her through direct or indirect attempts, including the framing of questions and/or a respondent's opinion or attitudes on any issue;
2. will obtain and document permission from a parent, legal guardian or responsible guardian before interviewing children 12 years old or younger. Prior to obtaining permission, the interviewer should divulge the subject matter, length of the interview and other special tasks that will be required.

RESPONSIBILITIES TO CLIENTS

Data Collection Companies ...

1. will ensure that each study is conducted according to the client's exact specifications;
2. will observe confidentiality with all research techniques or methodologies and with information considered confidential or proprietary. Information will not be revealed that could be used to identify clients or respondents without proper authorization;
3. will ensure that companies, their employees and subcontractors involved in data collection take all reasonable precautions so that more than one survey is not conducted in one interview without explicit permission from the Client
4. will report research results accurately and honestly;
5. will not misrepresent themselves as having qualifications, experience, skills or facilities that they do not possess;
6. will refrain from referring to membership in the Marketing Research Association as proof of competence, since the Association does not certify any person's or organization's competency or skill level.

RESPONSIBILITIES TO DATA COLLECTORS

Clients ...

1. will be responsible for providing products and services that are safe and fit or their intended use and disclose/label all product contents;
2. will provide verbal or written instructions;
3. will not ask our members who subcontract research to engage in any activity that is not acceptable as defined in this Code or that is prohibited under any applicable federal, state, local laws, regulations and/or ordinances.

RESPONSIBILITIES TO THE GENERAL PUBLIC AND BUSINESS

COMMUNITY

Data Collection Companies ...

1. will not intentionally abuse public confidence in marketing and opinion research;
2. will not represent a non-research activity to be marketing and opinion research, such as:
 - questions whose sole objective is to obtain personal information about respondents, whether for legal, political, private or other purposes,
 - the compilation of lists, registers or data banks of names and addresses for any non-research purposes (e.g., canvassing or fundraising),
 - industrial, commercial or any other form of espionage,
 - the acquisition of information for use by credit rating services or similar organizations,
 - sales or promotional approaches to the respondent,
 - the collection of debts;
3. will make interviewers aware of any special conditions that may be applicable to any minor (18 years old or younger).

These notes are intended to help users of the Code to interpret and apply it in practice. Any questions about how to apply the Code in a specific situation should be addressed to MRA Headquarters.

RESPONSIBILITIES TO RESPONDENTS

Data Collection Companies ...

1. will make factually correct statements to secure cooperation and honor promises to respondents, whether oral or written; *Interviewers will not knowingly provide respondents with information that misrepresents any portion of the interviewing process, such as; length of the interview, scope of task involved, compensation, or intended use of the information collected.*
2. will not use information to identify respondents without the permission of the respondent, except to those who check the data or are involved in processing the data. If such permission is given, it must be recorded by the interviewer at the time the permission is secured; *Respondent information will be linked to data collected only for research purposes such as validation, evaluating data in aggregate based on demographic information, modeling. Providing respondent information is not permissible for any purpose other than legitimate research purposes as mentioned above. If anyone requests respondent identifiable information it will only be provided upon receipt of written declaration of and agreement of some intended use. Such use shall be determined by the provider to qualify as legitimate research use. (i.e. validation, planned recalls, modeling, demographic analysis.) No other use of this information falls within the boundaries of the Code. This applies to all types of respondent sample sources including client supplied lists.*
3. will respect the respondent's right to withdraw or to refuse to cooperate at any stage of the study and not use any procedure or technique to coerce or imply that cooperation is obligatory. *Respondent cooperation is strictly on a voluntary basis. Respondents are entitled to withdraw from an interview at any stage or to refuse to cooperate in a research project. Interviewers should never lead respondents to believe they have no choice in their participation.*
4. will obtain and record respondent consent when it is known that the name and addresses or identity of the respondent may be passed to a third party for legal or other purposes, such as audio or video recordings; *By documenting the respondent's consent for a defined specific use of his/ her name and address we are confirming the respondent realizes we are asking something new of them, i.e., possible participation in another research project.*
5. will obtain permission and document consent of a parent, legal guardian or responsible guardian before interviewing children 12 years old or younger; *Interviewers must take special care when interviewing children or young people. The informed consent of the parent or responsible adult must first be obtained for interviews with children.*
6. will give respondents the opportunity to refuse to participate in the research when there is a possibility they may be identifiable even without the use of their name or address (e.g., because of the size of the population being sampled.) *Respondent cooperation is strictly on a voluntary basis. Respondents are entitled to withdraw from a research project. Company policies and/or interviewer instructions should state the interviewer must give respondents the opportunity to not participate for any reason.*

Interviewers ...

1. will treat the respondent with respect and not influence him or her through direct or indirect attempts, including the framing of questions, a respondent's opinion or attitudes on any issue. *Interviewers cannot ask questions in a way that leads or influences respondents' answers, nor can they provide their own opinions, thoughts or feelings that might bias a respondent and therefore impact the answers they give.*
2. will obtain and document permission of a parent, legal guardian or responsible guardian before interviewing children 12 years old or younger. Prior to obtaining permission, the interviewer should divulge the subject matter, length of interview and other special tasks that will be required. *Interviewers must take special care when interviewing children and young people. The informed consent of the parent or responsible adult must first be obtained for interviews with children. Parents or responsible adults must be told some specifics about the interview process and special tasks, such as audio or video recording, taste testing, respondent fees and special tasks, before permission is obtained.*

RESPONSIBILITIES TO CLIENTS

Data Collection Companies ...

1. will ensure that each study is conducted according to the client's specifications; *Procedures are implemented to conform or verify that client specifications are being followed.*
2. will observe confidentiality with all research techniques or methodologies and with information considered confidential or proprietary. Information will not be revealed that could be used to identify clients or respondents without proper authorization; *Respondent information will be linked to data collected only for research purposes and will not be used for any purpose other than legitimate research. Protect the confidentiality of anything learned about the respondent and/or his or her business.*
3. will ensure that companies, their employees and subcontractors involved in data collection take all reasonable precautions so that no more than one survey is conducted in one interview without explicit permission from the sponsorship company or companies; *Company policies or procedures indicate the practice of conducting more than one survey within an interview is not done without specific permission from the relevant clients.*
4. will report research results accurately and honestly; *Describe how the research was done in enough detail that a skilled researcher could repeat the study; provide data representative of a defined population or activity and enough data to yield projectable results; present the results understandably and fairly, including any results that may seem contradictory or unfavorable.*
5. will not misrepresent themselves as having qualifications, experience, skills or facilities that they do not possess; *If regularly subcontracting data collection, should not infer to clients and prospective clients that they possess this capability "in house"; claim only legitimate academic degrees, clients and other qualifications.*
6. will refrain from referring to membership in the Marketing Research Association as proof of competence, since the Association does not certify any person's or organization's competency or skill level. *MRA does not currently have a certification program for marketing research competency, therefore while members can state their membership in the Association, they cannot claim that this automatically conveys a message of their competency to carry out the marketing research process.*

RESPONSIBILITIES TO DATA COLLECTORS

Clients ...

1. will be responsible for providing products and services that are safe and fit for their intended use and disclose/label all product contents; *It is the client's responsibility to ensure that all test products are in compliance with all safety standards and that all product contents information is provided to the data collectors. Data Collectors should request in writing all pertinent information as well as emergency numbers for respondents and themselves.*
2. will provide oral or written instructions; *To ensure the success of the research, detailed instructions are to be provided prior to the start of any project. These instructions must be written and then confirmed orally for: understanding, ability of the agency to implement and agreement to comply.*
3. will not ask our members who subcontract research to engage in any activity that is not acceptable as defined in this Code or that is prohibited under any applicable federal, state and local laws, regulations and ordinances. *All MRA Members have agreed to comply with the Code as written and thus will not agree to, or ask anyone else to, knowingly violate any of the points of the Code.*

RESPONSIBILITIES TO THE GENERAL PUBLIC AND BUSINESS COMMUNITY

Data Collection Companies ...

1. will not intentionally abuse public confidence in marketing and opinion research; *Marketing research shall be conducted and reported for the sole purpose of providing factual information upon which decisions will be made. At no time is marketing research information to be used to intentionally mislead public opinion. Instances of abuse of public confidence undermine the credibility of our Industry.*
2. will not represent a non-research activity to be marketing and opinion research, such as:
 - questions whose sole objective is to obtain personal information about respondents, whether for legal, political, private or other purposes,
 - the compilation of lists, registers or data banks of names and addresses for any non-research purposes (e.g., canvassing or fundraising),
 - industrial, commercial or any other form of espionage,
 - the acquisition of information for use by credit rating services or similar organizations,
 - sales or promotional approaches to the respondent,

APPENDIX G

Traffic Management

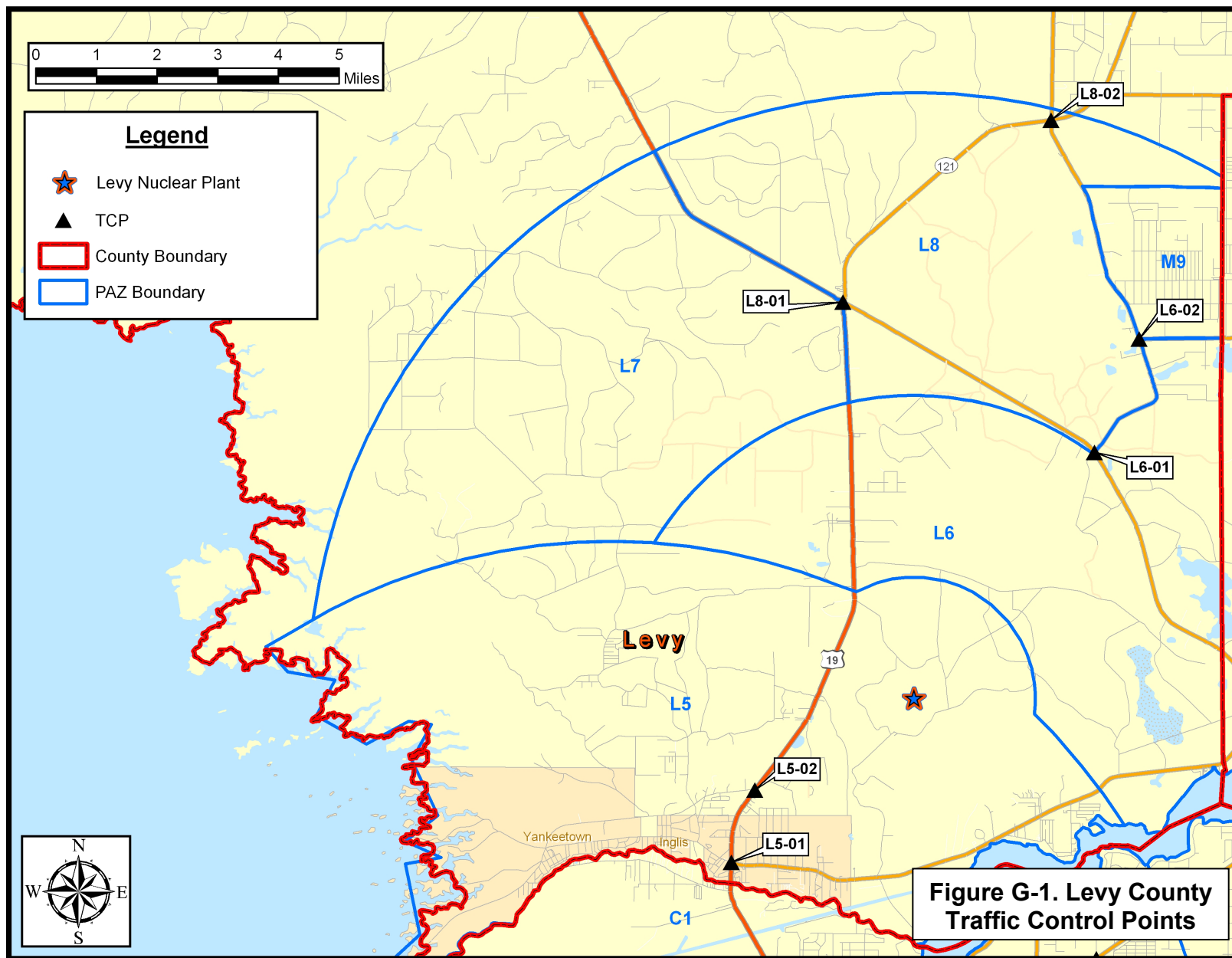
APPENDIX G: TRAFFIC MANAGEMENT

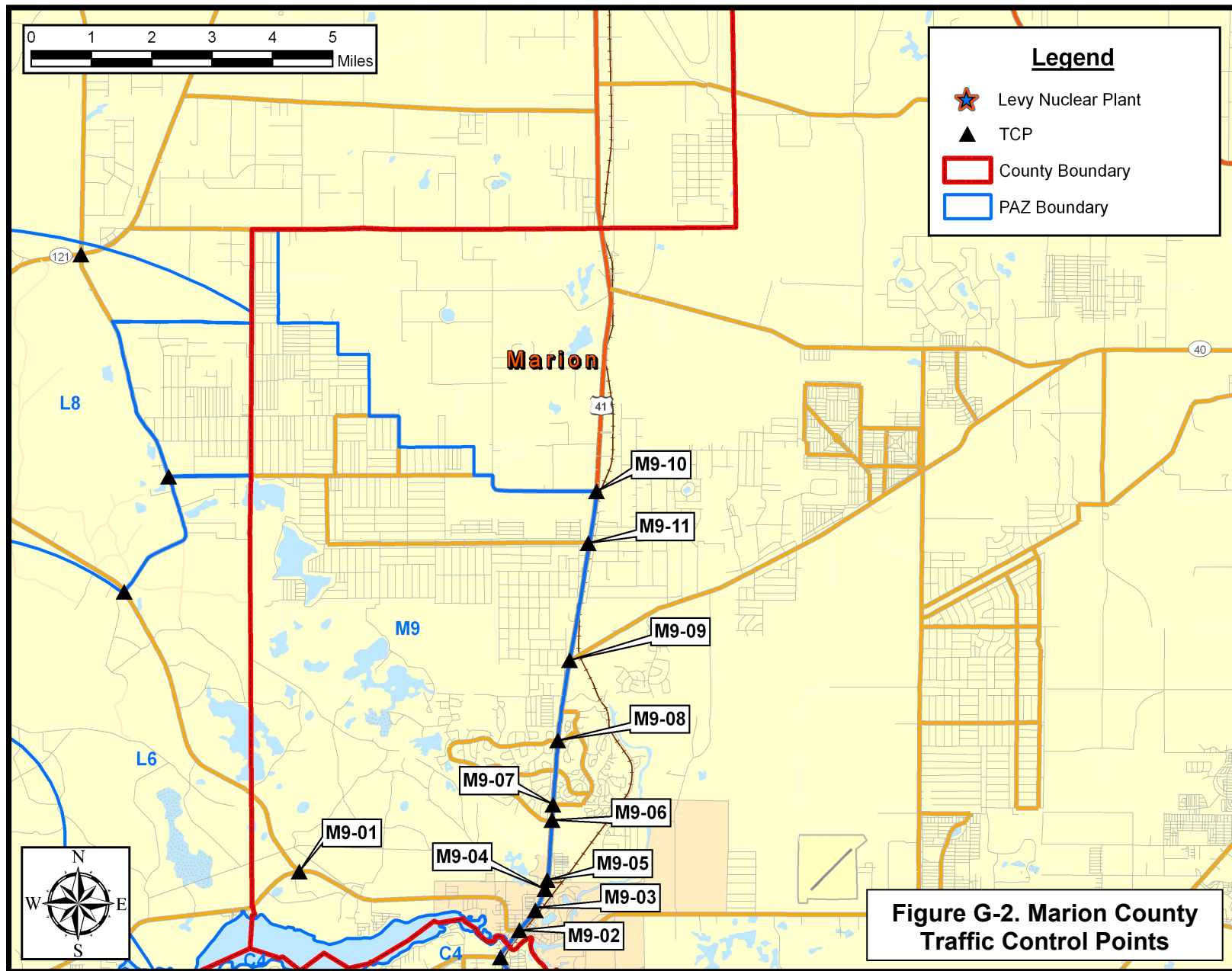
This appendix presents suggested traffic control measures to facilitate the evacuation of the Levy Nuclear Plant EPZ. Pages G-2 through G-35 detail Traffic Control Points (TCP), which are typically intersections within the EPZ; these points are established to facilitate the flow of evacuee traffic from within the EPZ. Table G-1 summarizes the TCP and the manpower and equipment needed to implement traffic control. Figures G-1 through G-3 provide detailed mapping of the location of each traffic control point by county.

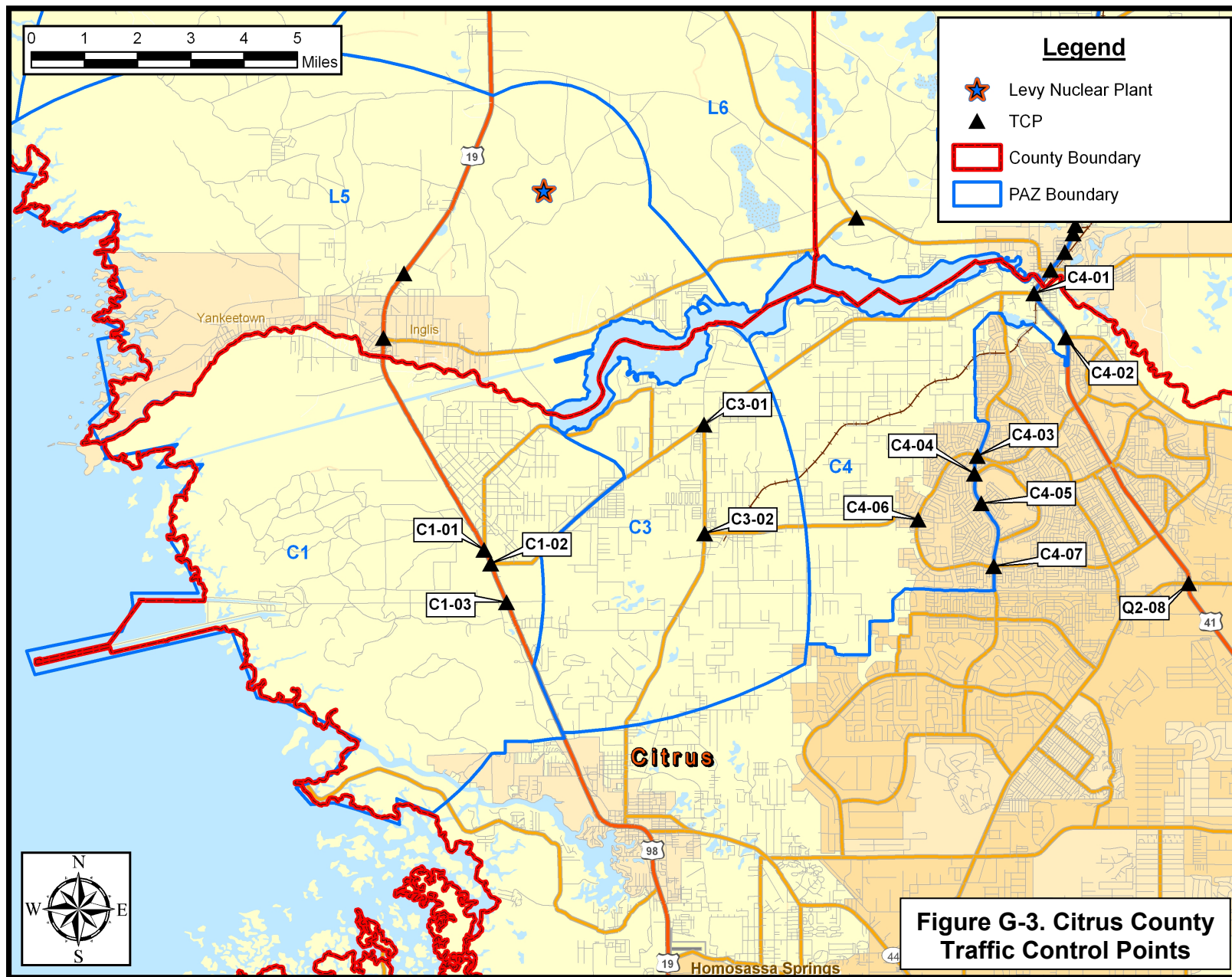
Pages G-36 through G-50 detail the Access Control Points (ACP), which are typically on the periphery of the EPZ; these points are established to divert vehicles from entering the EPZ. Doing so provides all of the available roadway capacity within the EPZ to the evacuees. Table G-2 summarizes the ACP and the manpower and equipment needs to establish access control, while Figure G-4 provides a detailed map of the location of each ACP.

This traffic management plan was reviewed with the state and local police who voiced concern over manpower and equipment shortages. As such, prioritization of TCP and ACP was established to make the most efficient use of manpower and equipment in the event of an emergency. The use of ITS technologies, as outlined in Section 9, will also aid in overcoming manpower shortages.

Table G-1. Traffic Control Points						
Priority	PAZ	ID#	Town	Intersection Location	# of Guides	# of Cones
CITRUS COUNTY						
1	C4	C4-01	Citrus Springs	USHY 41 & W Dunnellon Rd	2	6
1	N/A	Q2-08	Holder	USHY 41 & N Lecanto Hwy	1	12
2	C1	C1-01	Crystal River	USHY 19/USHY 98 & N Basswood Ave	1	12
2	C1	C1-02	Crystal River	USHY 98/USHY 19 & W Dunnellon Rd	1	12
2	C1	C1-03	Crystal River	USHY 19/USHY 98 & W Power Line Rd	2	9
2	C3	C3-01	Crystal River	Dunnellon Rd & N Citrus Ave	1	6
2	C3	C3-02	Crystal River	W Dunklin St & N Citrus Ave	1	3
2	C4	C4-03	Citrus Springs	N Citrus Springs Blvd & N Elkcam Blvd	1	6
2	C4	C4-07	Citrus Springs	W Citrus Springs Blvd & N Elkcam Blvd	1	6
3	C4	C4-02	Citrus Springs	N Florida Ave & W Withlacoochee Trail	1	6
3	C4	C4-04	Citrus Springs	N Elkcam Blvd & N Golfview Dr & N Gilovu Dr	1	6
3	C4	C4-05	Citrus Springs	N Elkcam Blvd & W Century Blvd	1	6
3	C4	C4-06	Citrus Springs	N Citrus Springs Blvd & W Dunklin St	1	6
Total Manpower & Equipment for Citrus County					15	96
LEVY COUNTY						
2	L5	L5-01	Inglis	USHY 19/USHY 98 & STHY 40	2	12
2	L5	L5-02	Inglis	USHY 19/USHY 98 & County Rd 40A	2	9
2	L8	L8-01	Inglis	USHY 19/USHY 98 & STHY 336 & STHY 121	2	12
3	L6	L6-01	Tidewater	CR 336 & CR 337	1	9
3	L6	L6-02	Inglis	STHY 337 & 120th St	1	3
3	L8	L8-02	Inglis	STHY 121 & STHY 337	1	6
Total Manpower & Equipment for Levy County					9	51
MARION COUNTY						
1	M9	M9-02	Dunnellon	USHY 41 & STHY 40 Westbound	2	18
1	M9	M9-09	Dunnellon	USHY 41 & STHY 40 Eastbound	2	12
1	M9	M9-11	Dunnellon	USHY 41 & Rainbow Lakes Blvd	2	6
2	M9	M9-03	Dunnellon	USHY 41 & Powell Rd	2	12
2	M9	M9-04	Dunnellon	USHY 41 & Brooks St	2	12
2	M9	M9-05	Dunnellon	USHY 41 & Wal-Mart Entrance	1	6
2	M9	M9-07	Dunnellon	USHY 41 & SW 99th Pl	1	9
3	M9	M9-01	Dunnellon	STHY 40 & CR 336	2	9
3	M9	M9-06	Dunnellon	USHY 41 & 102nd St	1	12
3	M9	M9-08	Dunnellon	USHY 41 & SW 88th Place Rd	1	12
3	M9	M9-10	Dunnellon	USHY 41 & SW 36th St	1	6
Total Manpower & Equipment for Marion County					17	114
Total Manpower & Equipment for EPZ					41	261







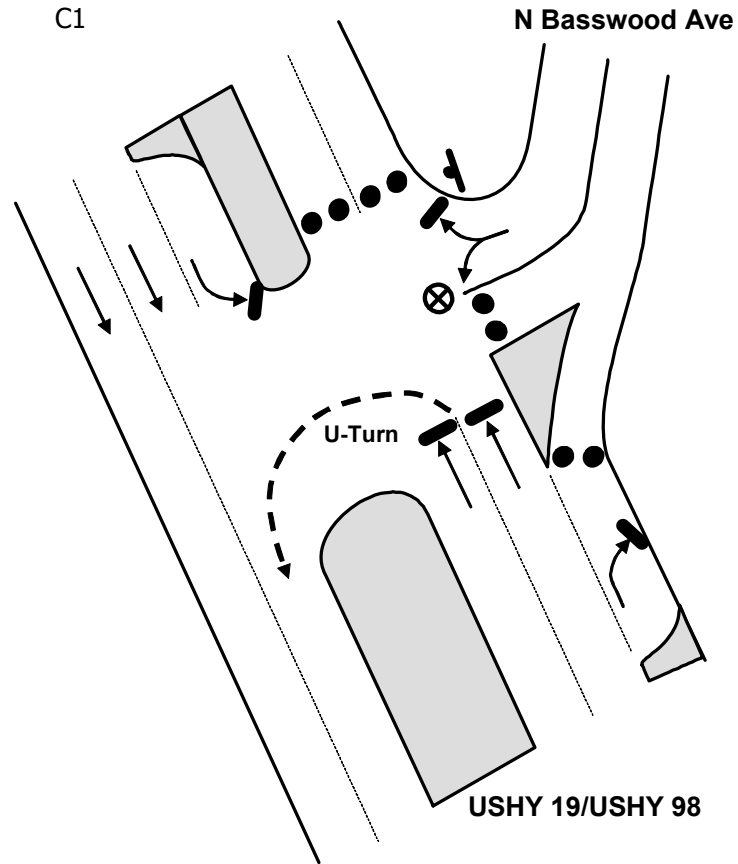
TCP

TOWN: CRYSTAL RIVER

LOCATION: USHY 19/USHY 98 & N Basswood Ave

TCP ID: C1-01

PAZ: C1



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 19/USHY 98
2. Discourage eastbound movement on N Basswood Ave

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 12 Traffic Cones

LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

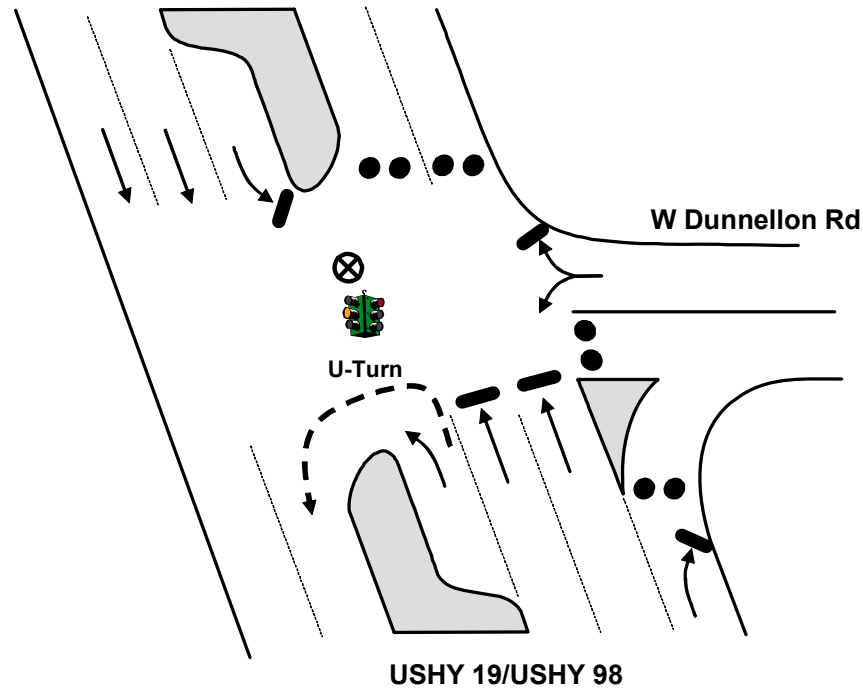
TCP

TOWN: CRYSTAL RIVER

LOCATION: USHY 98/USHY 19 & W DUNNELLOM RD

TCP ID: C1-02

PAZ: C1



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 19/USHY 98
2. Discourage eastbound movement on W Dunnellon Rd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 12 Traffic Cones

LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

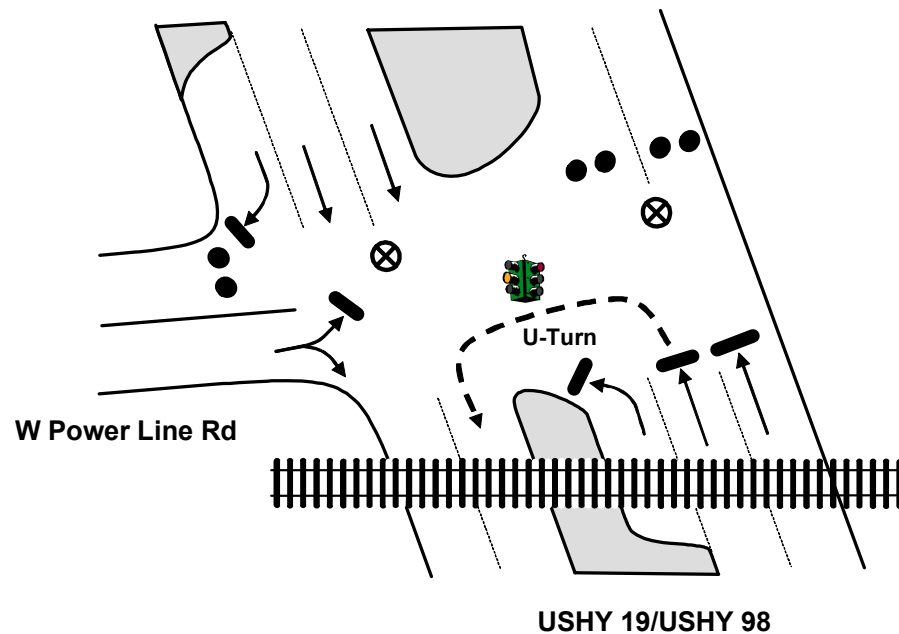
TCP

TOWN: CRYSTAL RIVER

LOCATION: USHY 19/USHY 98 & W Power Line Rd

TCP ID: C1-03

PAZ: C1



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 19/USHY 98
2. Discourage westbound movement on W Power Line Rd

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 9 Traffic Cones

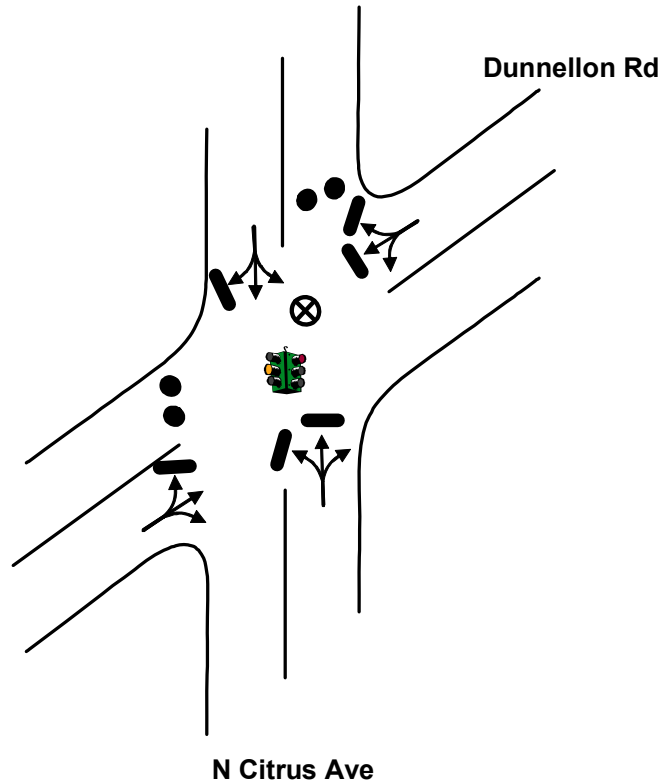
LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

TCP

TOWN: CRYSTAL RIVER
LOCATION: Dunnellon Rd & N Citrus Ave
TCP ID: C3-01
PAZ: C3



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊞ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage westbound movement on Dunnellon Rd
2. Discourage northbound movement on N Citrus Ave

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

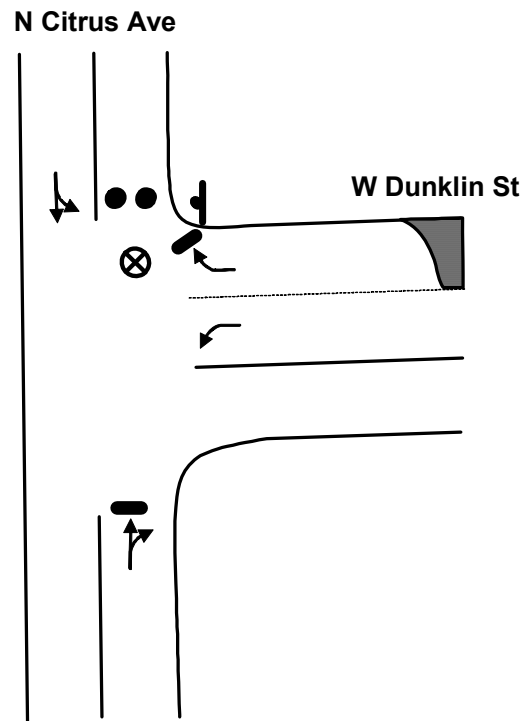
LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

TCP

TOWN: CRYSTAL RIVER
LOCATION: W Dunklin St & N Citrus Ave
TCP ID: C3-02
PAZ: C3



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊘ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on N Citrus Ave

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 3 Traffic Cones

LOCATION PRIORITY

2



****Traffic Guide should position himself safely**

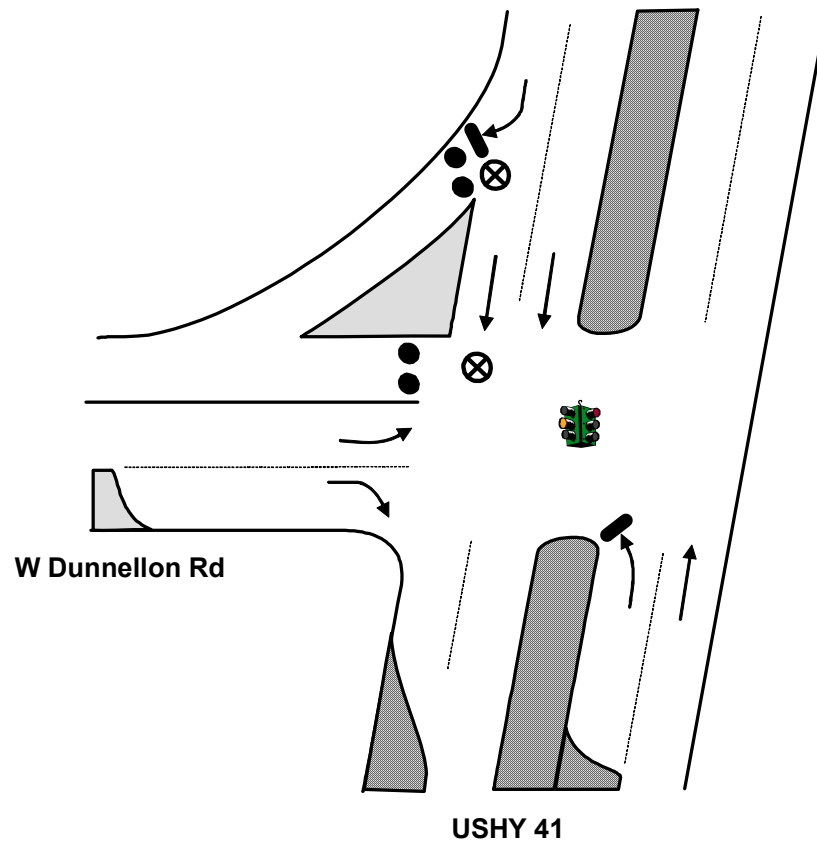
TCP

TOWN: CITRUS SPRINGS

LOCATION: USHY 41 & W Dunnellon Rd

TCP ID: C4-01

PAZ: C4



****Traffic Guide should position himself safely**

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage westbound movement on W Dunnellon Rd

MANPOWER/EQUIPMENT ESTIMATE

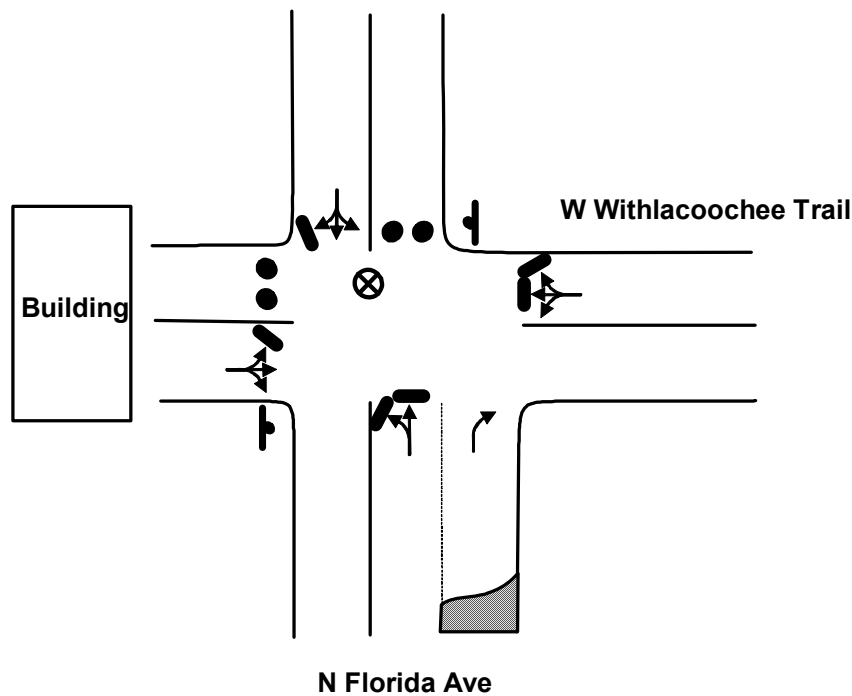
- 2 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

1

TCP

TOWN: CITRUS SPRINGS
LOCATION: N Florida Ave & W Withlacoochee Trail
TCP ID: C4-02
PAZ: C4



****Traffic Guide should position himself safely**

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊘ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on N Florida Ave

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

3

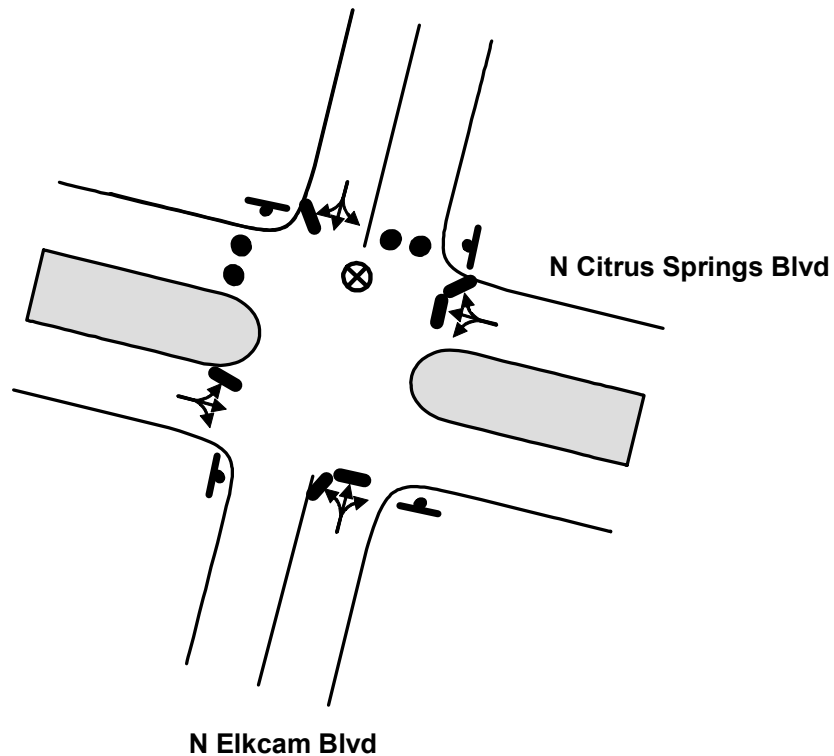
TCP

TOWN: CITRUS SPRINGS

LOCATION: N Citrus Springs Blvd & N Elkcarn Blvd

TCP ID: C4-03

PAZ: C4



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on N Elkcarn Blvd
2. Discourage westbound movement on N Citrus Springs Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

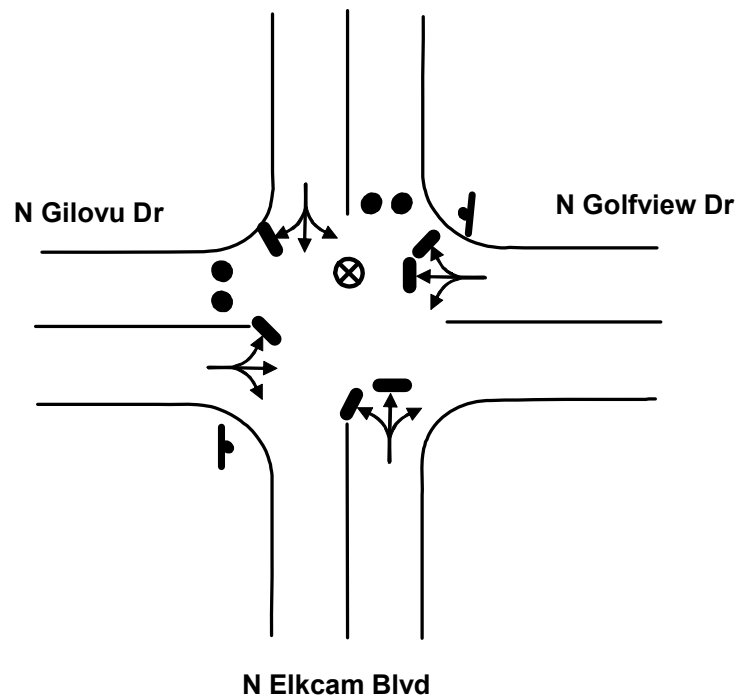
TCP

TOWN: CITRUS SPRINGS

LOCATION: N Elcam Blvd & N Golfview Dr & N Gilovu Dr

TCP ID: C4-04

PAZ: C4



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on N Elcam Blvd
2. Discourage westbound movement on N Gilovu Dr

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

3

****Traffic Guide should position himself safely**

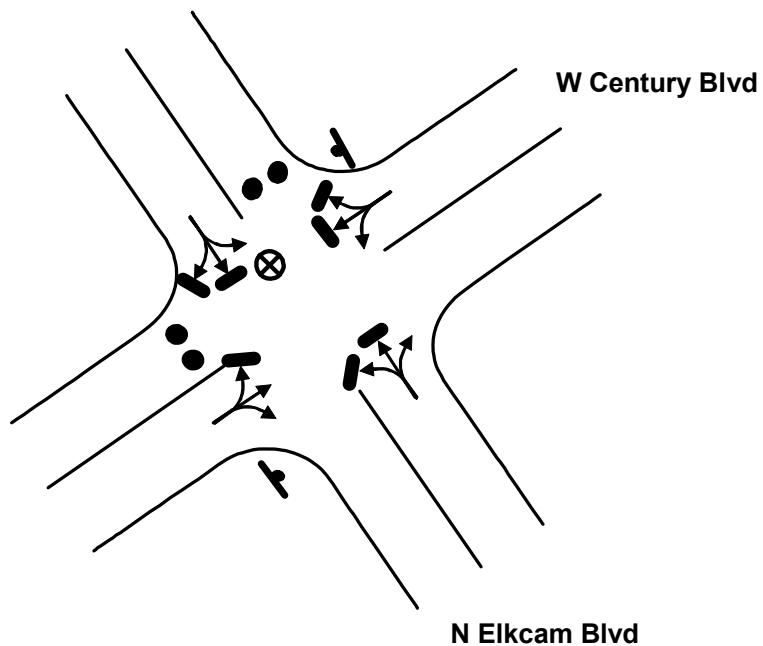
TCP

TOWN: CITRUS SRPINGS

LOCATION: N Elkcarn Blvd & W Century Blvd

TCP ID: C4-05

PAZ: C4



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on N Elkcarn Blvd
2. Discourage westbound movement on W Century Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

3

****Traffic Guide should position himself safely**

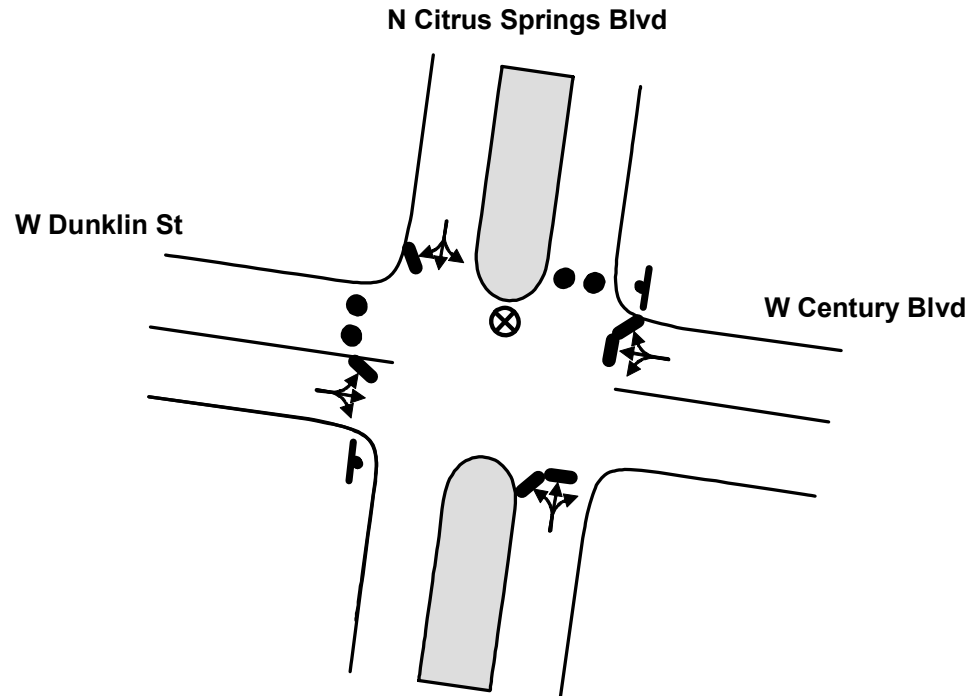
TCP

TOWN: CITRUS SPRINGS

LOCATION: N Citrus Springs Blvd & W Century Blvd & W Dunklin St

TCP ID: C4-06

PAZ: C4



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊥ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on N Citrus Springs Blvd
2. Discourage westbound movement on W Dunklin St

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

3



****Traffic Guide should position himself safely**

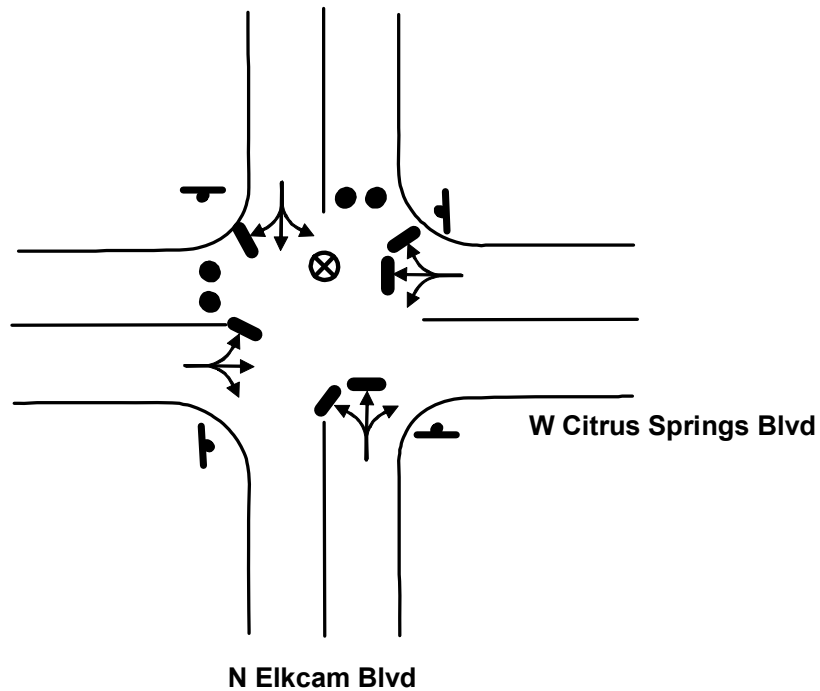
TCP

TOWN: CITRUS SPRINGS

LOCATION: W Citrus Springs Blvd & N Elkcarn Blvd

TCP ID: C4-07

PAZ: C4



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on N Elkcarn Blvd
2. Discourage westbound movement on W Citrus Springs Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

2



****Traffic Guide should position himself safely**

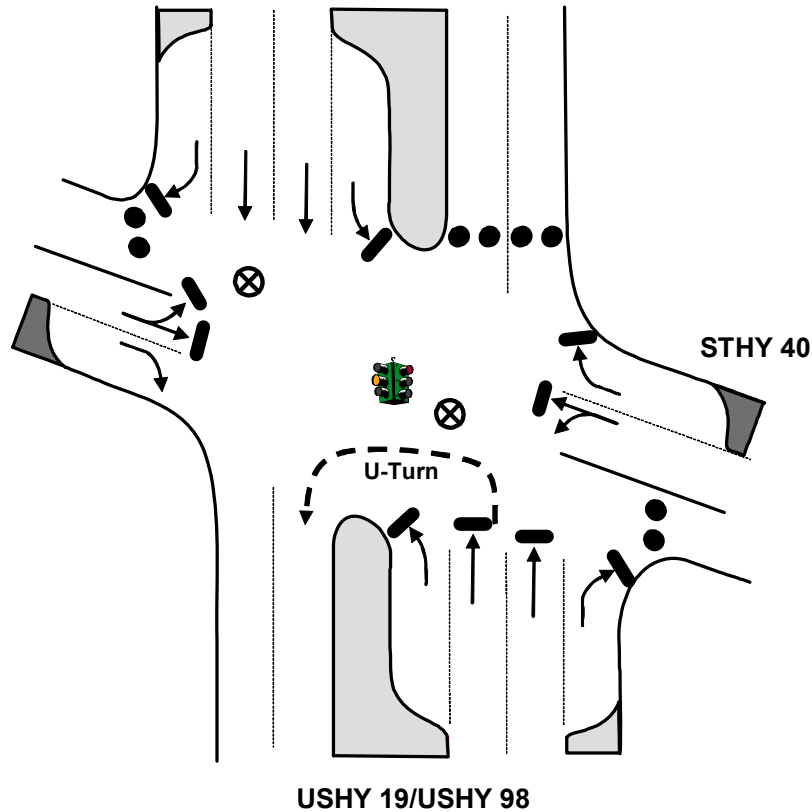
TCP

TOWN: INGLIS

LOCATION: USHY 19/USHY 98 & STHY 40

TCP ID: L5-01

PAZ: L5



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 19/USHY 98
2. Discourage eastbound and westbound movements on STHY 40

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 12 Traffic Cones

LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

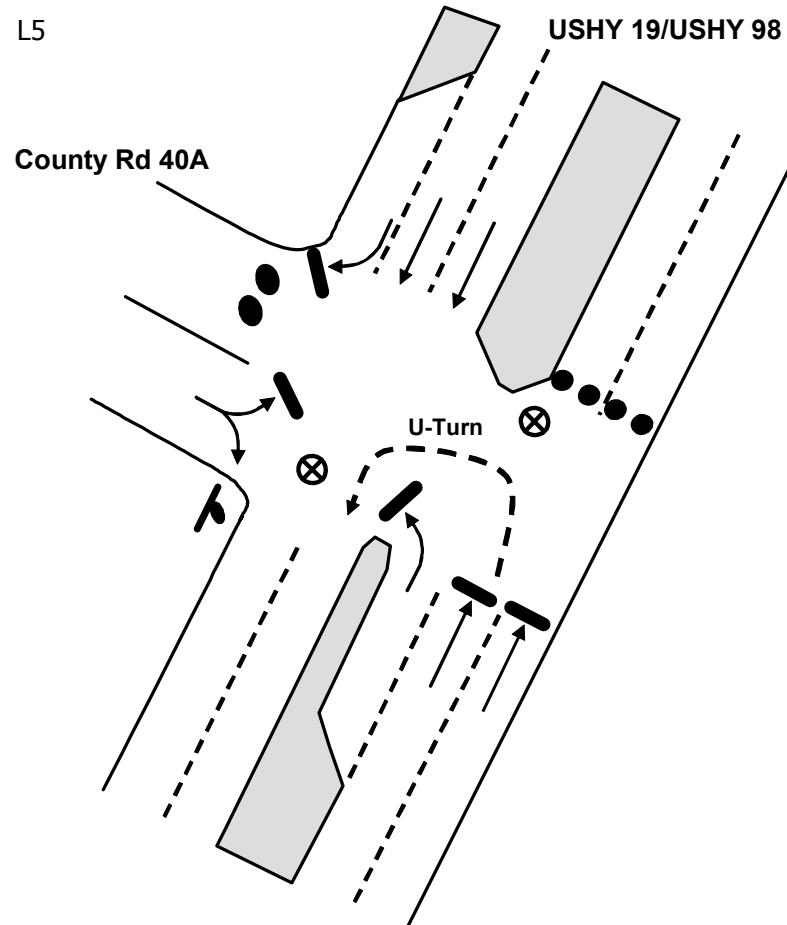
TCP

TOWN: INGLIS

LOCATION: USHY 19/USHY 98 & County Rd 40A

TCP ID: L5-02

PAZ: L5



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊥ STOP SIGN
- ✕ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft ●

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 19/USHY 98
2. Discourage westbound movement on County Rd 40A

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 9 Traffic Cones

LOCATION PRIORITY

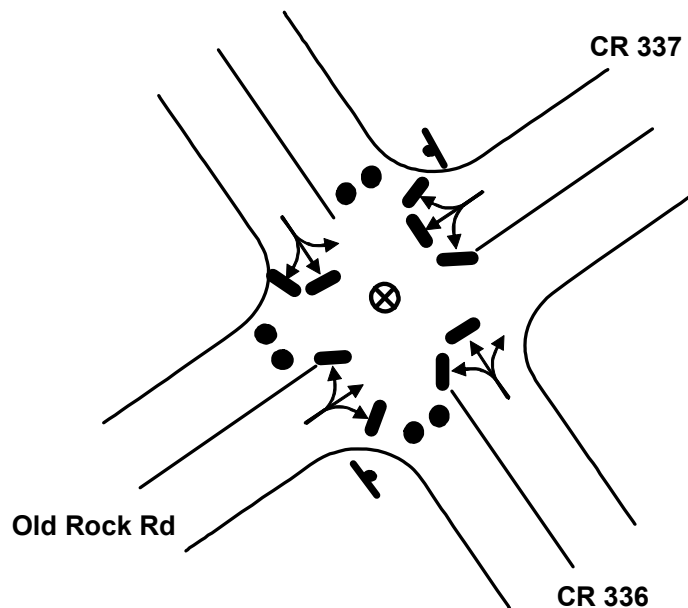
2



****Traffic Guide should position himself safely**

TCP

TOWN: TIDEWATER
LOCATION: CR 336 & CR 337
TCP ID: L6-01
PAZ: L6



KEY

- MOVEMENT FACILITATED
- [thick bar] MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound and southbound movements on CR 336
2. Discourage southbound movement on Old Rock Rd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 9 Traffic Cones

LOCATION PRIORITY

3

****Traffic Guide should position himself safely**

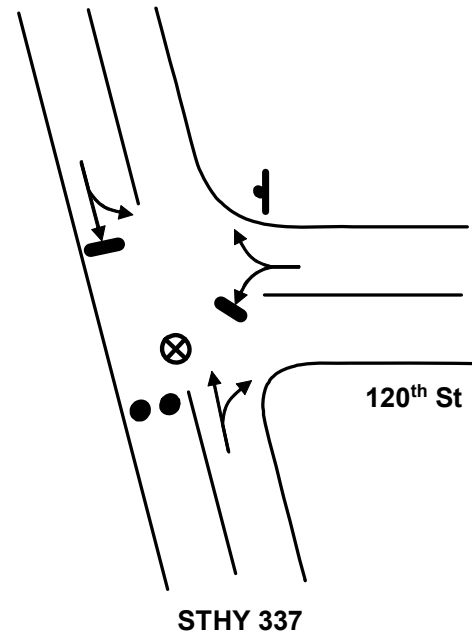
TCP

TOWN: INGLIS

LOCATION: STHY 337 & 120TH St

TCP ID: L6-02

PAZ: L6



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⏹ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage southbound movement on STHY 337

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 3 Traffic Cones

LOCATION PRIORITY

3



****Traffic Guide should position himself safely**

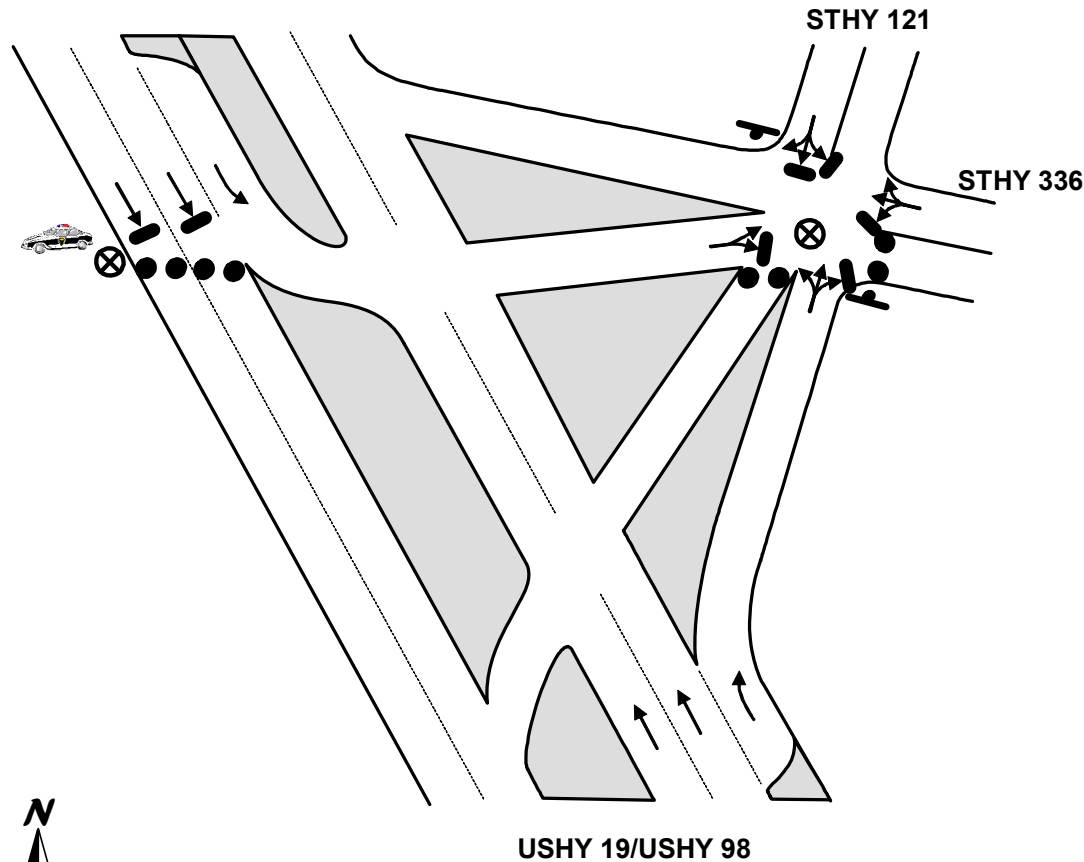
TCP

TOWN: INGLIS

LOCATION: USHY 19/USHY 98 & STHY 336 & STHY 121

TCP ID: L8-01

PAZ: L8



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft
- PATROL VEHICLE

ACTIONS TO BE TAKEN

1. Discourage southbound movement on USHY 19/USHY 98
2. Discourage eastbound movement on STHY 336
3. Park patrol vehicle on shoulder with lights flashing

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 12 Traffic Cones
- 1 Patrol Vehicle

LOCATION PRIORITY

2



****Traffic Guide should position himself safely**

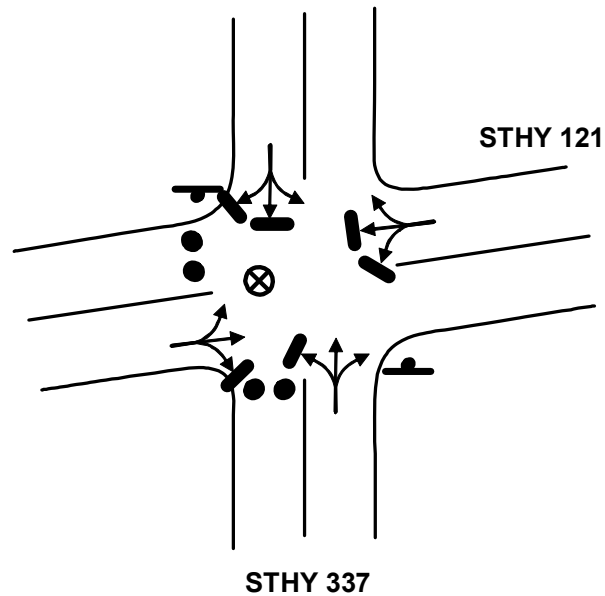
TCP

TOWN: INGLIS

LOCATION: STHY 121 & STHY 337

TCP ID: L8-02

PAZ: L8



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage westbound movement on STHY 121
2. Discourage southbound movement on STHY 337

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

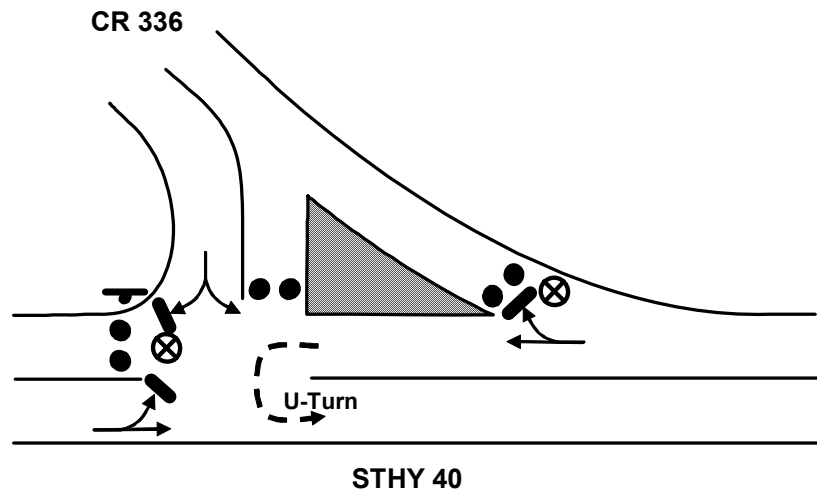
3



****Traffic Guide should position himself safely**

TCP

TOWN: DUNNELLON
LOCATION: STHY 40 & CR 336
TCP ID: M9-01
PAZ: M9



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊘ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage westbound movement on CR 336
2. Discourage westbound movement on STHY 40

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 9 Traffic Cones

LOCATION PRIORITY

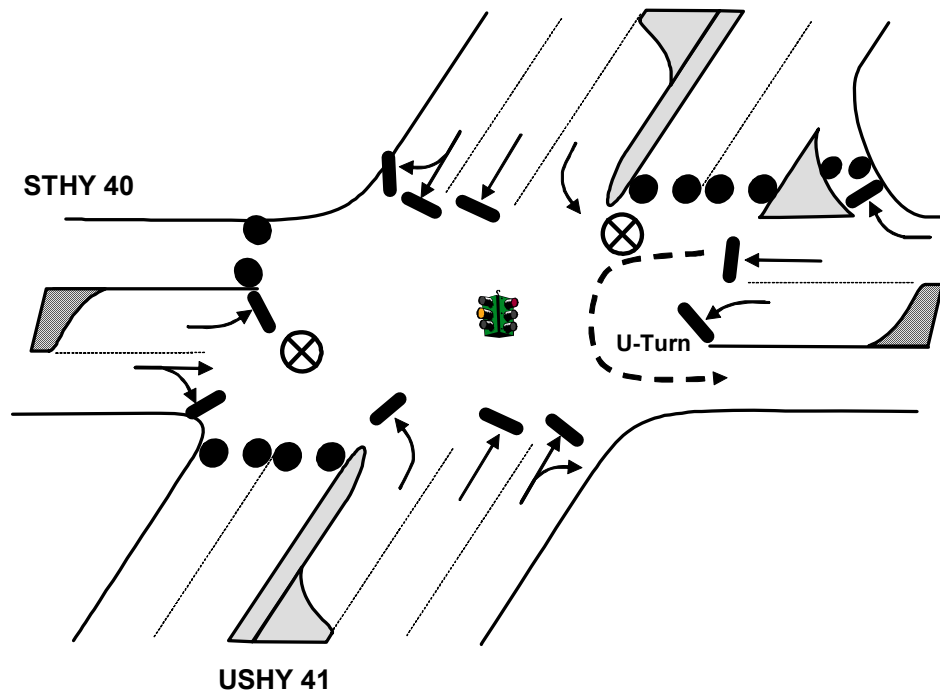
3



****Traffic Guide should position himself safely**

TCP

TOWN: DUNNELLON
LOCATION: USHY 41 & STHY 40 WESTBOUND
TCP ID: M9-02
PAZ: M9



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage movement onto USHY 41
2. Facilitate eastbound movement on STHY 40
3. Discourage westbound movement on STHY 40

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 18 Traffic Cones

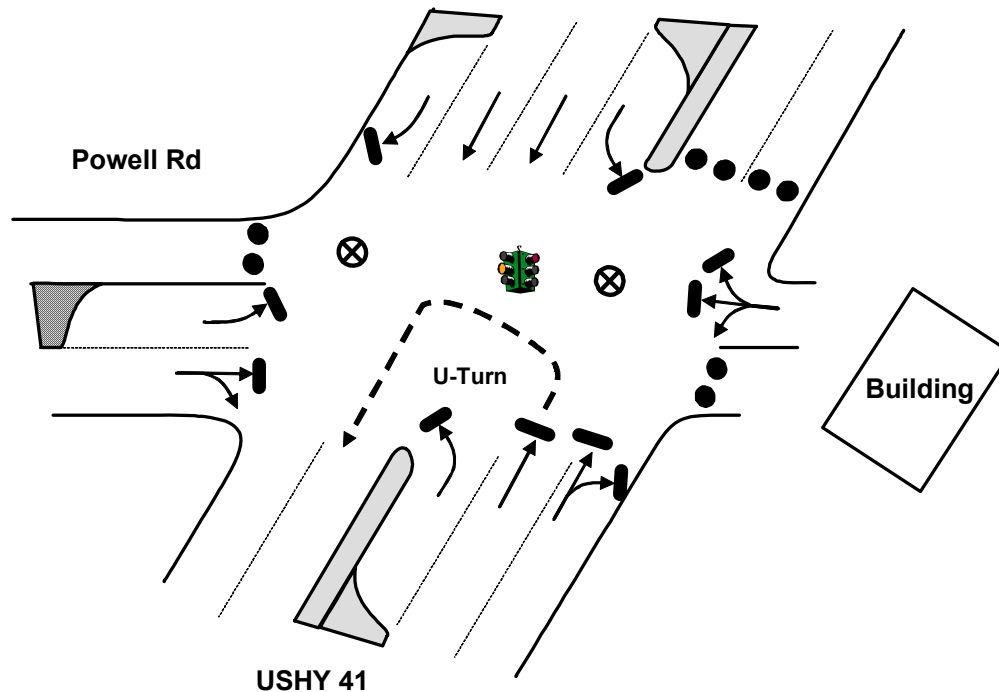
LOCATION PRIORITY

1

****Traffic Guide should position himself safely**

TCP

TOWN: DUNNELLON
LOCATION: USHY 41 & Powell Rd
TCP ID: M9-03
PAZ: M9



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 41
2. Discourage westbound movement on Powell Rd

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 12 Traffic Cones

LOCATION PRIORITY

2



****Traffic Guide should position himself safely**

TCP

TOWN: DUNNELLON

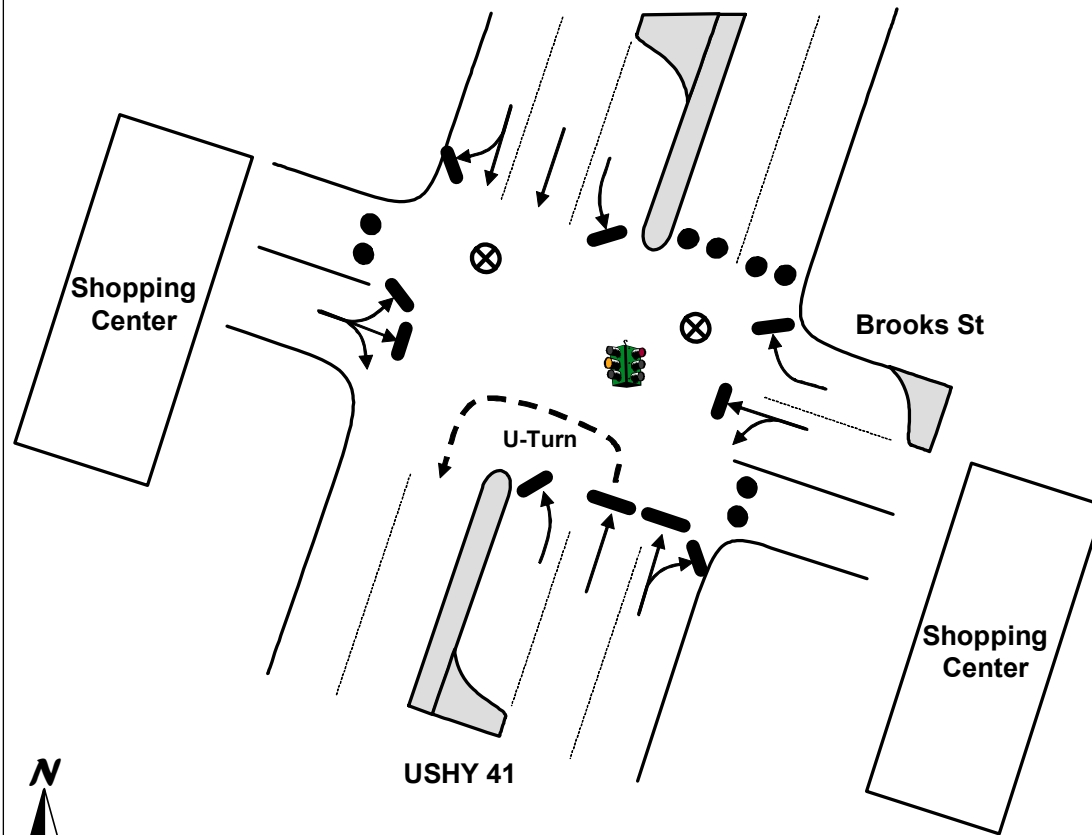
LOCATION: USHY 41 & Brooks St

TCP ID: M9-04

PAZ: M9

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft



ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 41
2. Discourage movement into shopping centers

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 12 Traffic Cones

LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

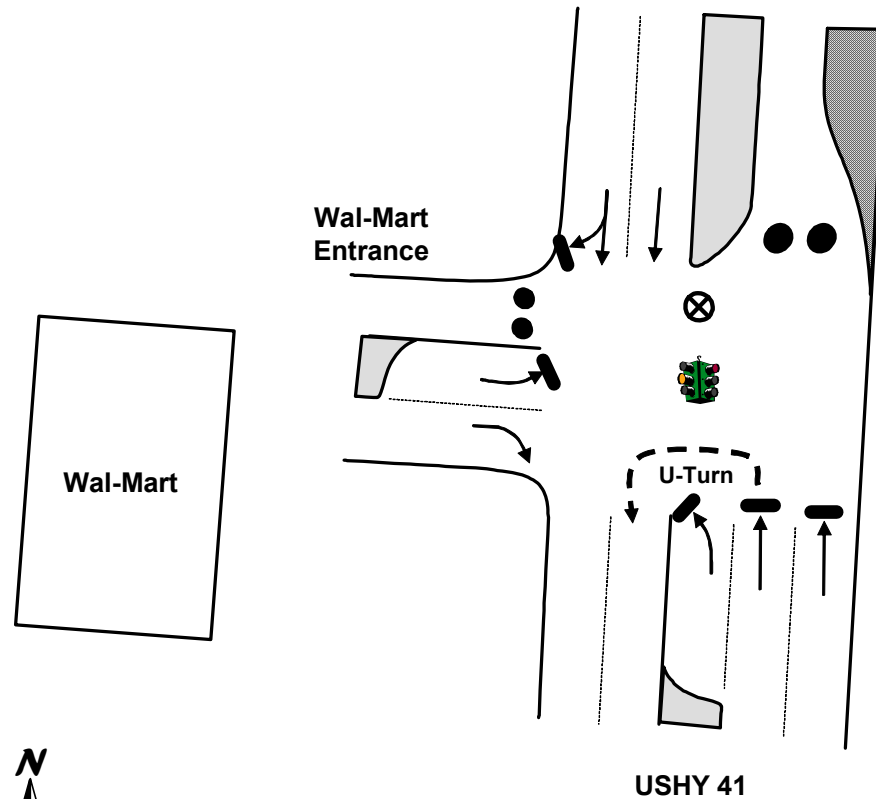
TCP

TOWN: DUNNELLON

LOCATION: USHY 41 & Wal-Mart Entrance

TCP ID: M9-05

PAZ: M9



****Traffic Guide should position himself safely**

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 41
2. Discourage movement into Wal-Mart

MANPOWER/EQUIPMENT ESTIMATE

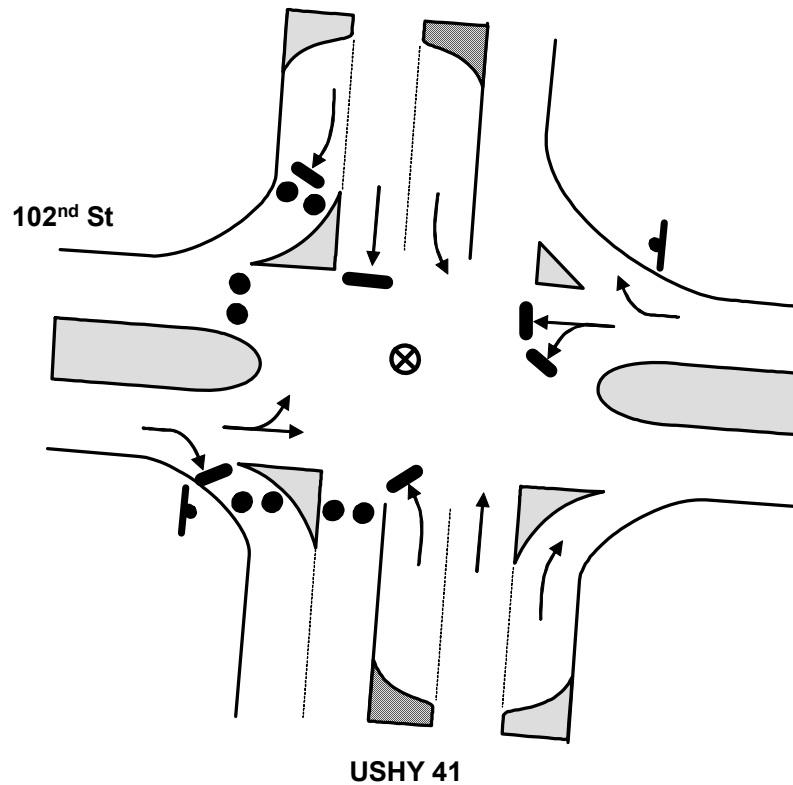
- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

2

TCP

TOWN: DUNNELLON
LOCATION: USHY 41 & 102nd St
TCP ID: M9-06
PAZ: M9



KEY

- MOVEMENT FACILITATED
- [thick black bar] MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- [stop sign symbol] STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- [traffic signal symbol] TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage southbound movement on USHY 41
2. Discourage westbound movement on 102nd St

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 12 Traffic Cones

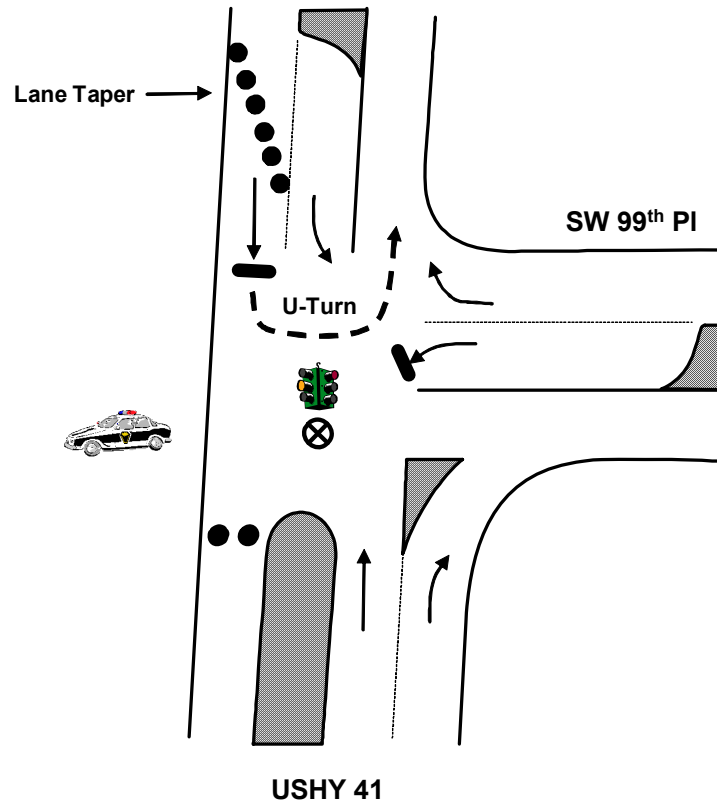
LOCATION PRIORITY

3

****Traffic Guide should position himself safely**

TCP

TOWN: DUNNELLON
LOCATION: USHY 41 & SW 99th PI
TCP ID: M9-07
PAZ: M9



****Traffic Guide should position himself safely**

KEY

- MOVEMENT FACILITATED
- MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft
- POLICE CAR

ACTIONS TO BE TAKEN

1. Discourage southbound movement on USHY 41

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 9 Traffic Cones

LOCATION PRIORITY

2

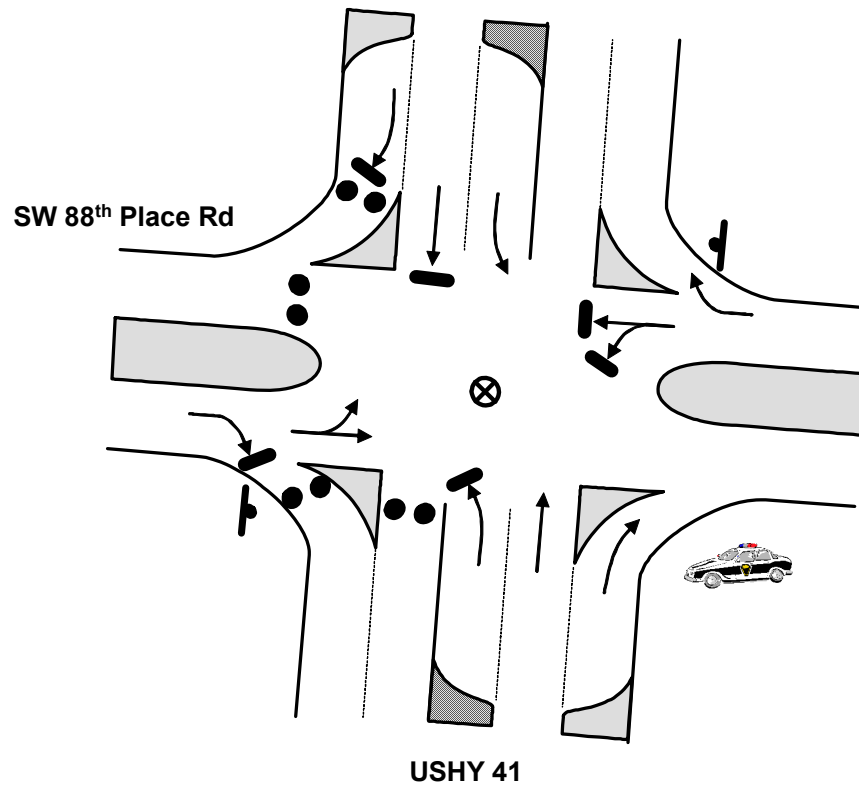
TCP

TOWN: DUNNELLO

LOCATION: USHY 41 & SW 88th Place Rd

TCP ID: M9-08

PAZ: M9



****Traffic Guide should position himself safely**

KEY

- MOVEMENT FACILITATED
- MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft
- POLICE CAR

ACTIONS TO BE TAKEN

1. Discourage southbound movement on USHY 41
2. Discourage westbound movement onto SW 88th Place Rd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 12 Traffic Cones

LOCATION PRIORITY

3

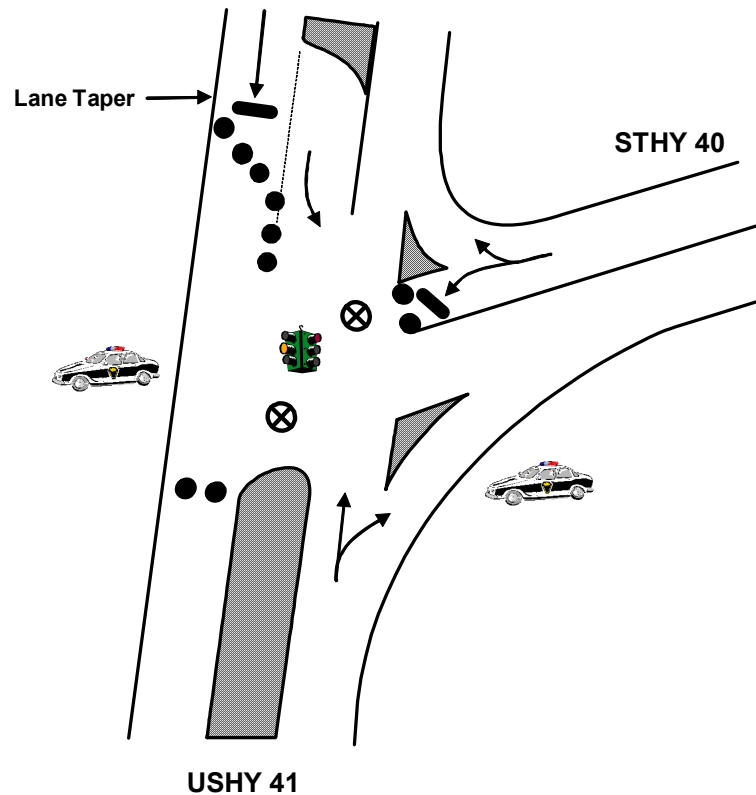
TCP

TOWN: DUNNELLON

LOCATION: USHY 41 & STHY 40 EASTBOUND

TCP ID: M9-09

PAZ: M9



KEY

- MOVEMENT FACILITATED
- MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft
- POLICE CAR

ACTIONS TO BE TAKEN

1. Discourage southbound movement on USHY 41

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 12 Traffic Cones

LOCATION PRIORITY

1

****Traffic Guide should position himself safely**

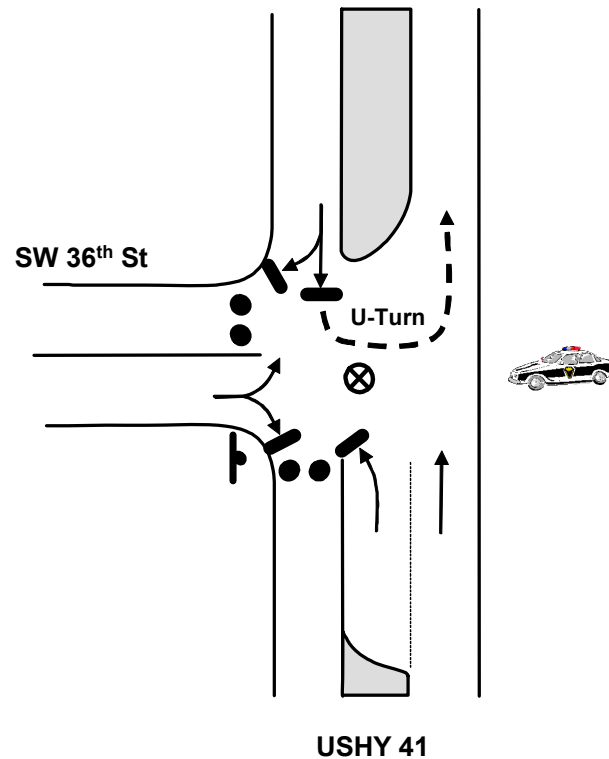
TCP

TOWN: DUNNELLON

LOCATION: USHY 41 & SW 36th St

TCP ID: M9-10

PAZ: M9



KEY

- MOVEMENT FACILITATED
- MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft
- POLICE CAR

ACTIONS TO BE TAKEN

1. Discourage southbound movement on USHY 41
2. Discourage westbound movement on SW 36th St

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

3

****Traffic Guide should position himself safely**

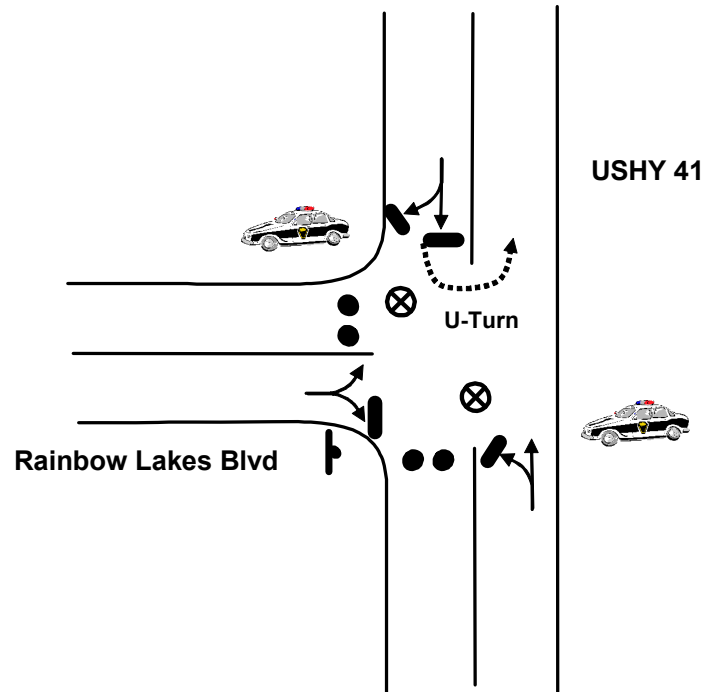
TCP

TOWN: DUNNELLON

LOCATION: USHY 41 & Rainbow Lakes Blvd

TCP ID: M9-11

PAZ: M9



KEY

→ MOVEMENT FACILITATED

→ MOVEMENT DISCOURAGED/DIVERTED

⊗ TRAFFIC GUIDE

STOP SIGN

⊗ TRAFFIC BARRICADE

2 PER LANE (LOCAL ROADS AND RAMP)

4 PER LANE (FREEWAY AND RAMP)

TRAFFIC SIGNAL

● ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

POLICE CAR

ACTIONS TO BE TAKEN

1. Discourage southbound movement on USHY 41
2. Discourage westbound movement on Rainbow Lakes Blvd
3. U-Turn southbound traffic on US 41 and re-route them northbound

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 6 Traffic Cones

LOCATION PRIORITY

1



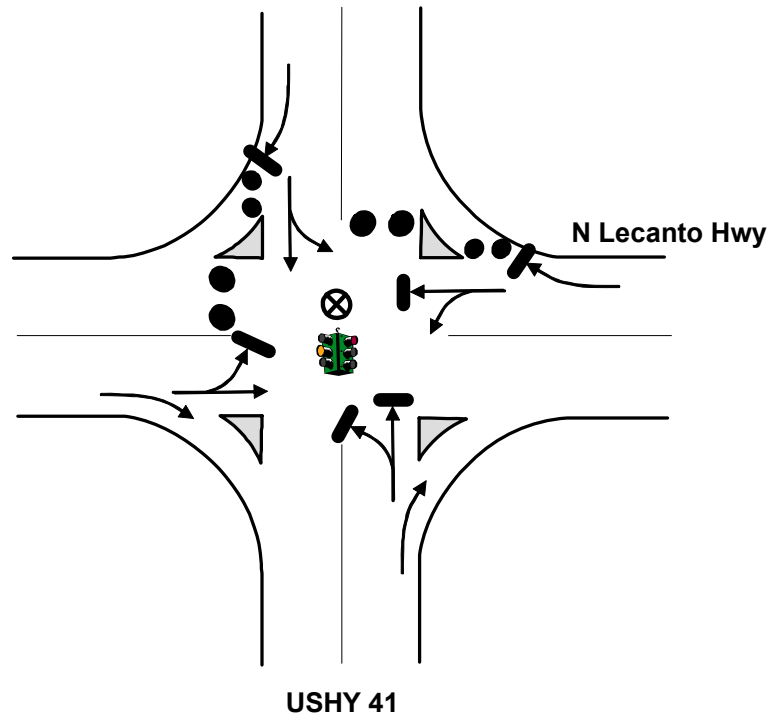
****Traffic Guide should position himself safely**

TCP

TOWN: HOLDER

LOCATION: USHY 41 & N Lecanto Hwy

TCP ID: Q2-08



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Discourage northbound movement on USHY 41
2. Discourage westbound movement on N Lecanto Hwy

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 12 Traffic Cones

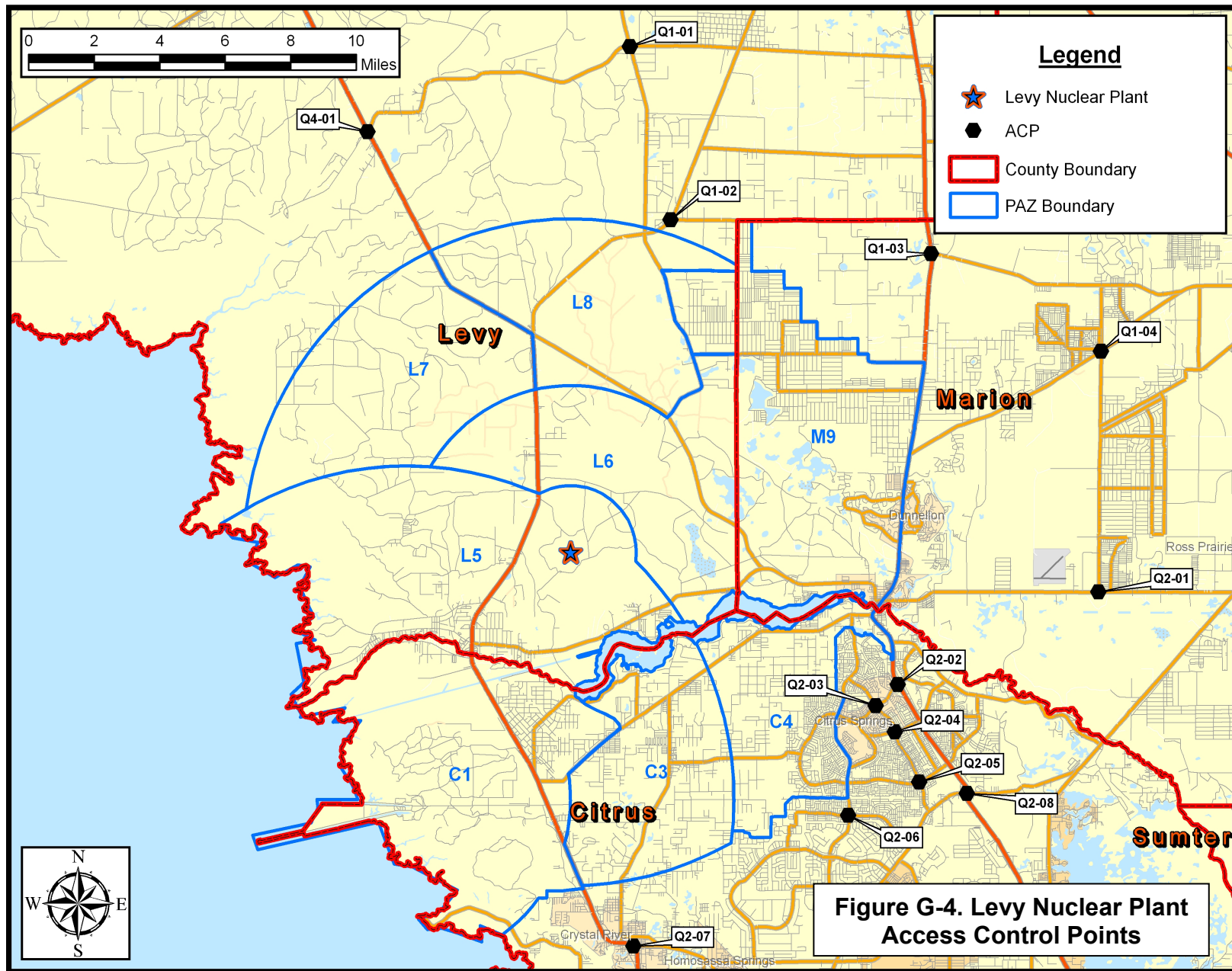
LOCATION PRIORITY

1



****Traffic Guide should position himself safely**

Table G-2. Access Control Points					
Priority	ID#	Town	Intersection Location	# of Guides	# of Barricades
CITRUS COUNTY					
1	Q2-02	Citrus Springs	USHY 41 & N Citrus Springs Blvd	1	8
1	Q2-07	Crystal River	STHY 44 & USHY 19/USHY 98	2	6
1	Q2-08	Holder	USHY 41 & N Lecanto Hwy	1	8
2	Q2-03	Citrus Springs	N Deltona Blvd & Citrus Springs Blvd	1	4
2	Q2-04	Citrus Springs	N Deltona Blvd & W Country Club Blvd	1	4
2	Q2-05	Citrus Springs	N Deltona Blvd & W Citrus Springs Blvd	1	4
3	Q2-06	Citrus Springs	N Elkcam Blvd & W Hampshire Blvd	1	2
Total Manpower & Equipment for Citrus County				8	36
LEVY COUNTY					
1	Q4-01	Otter Creek	USHY 19/USHY 98 & STHY 326	2	6
2	Q1-02	Morrison	STHY 121 & SE 80th St	1	2
3	Q1-01	Morrison	CR 326 & CR 337	1	2
Total Manpower & Equipment for Levy County				4	10
MARION COUNTY					
1	Q1-04	Dunnellon	STHY 40 & SW 140th Ave	2	2
2	Q1-03	Dunnellon	USHY 41 & W CR-328	1	2
2	Q2-01	Dunnellon	Ned Folks/SW CR-484 & SW 140th Ave	1	2
Total Manpower & Equipment for Marion County				4	6
Total Manpower & Equipment for EPZ				16	52



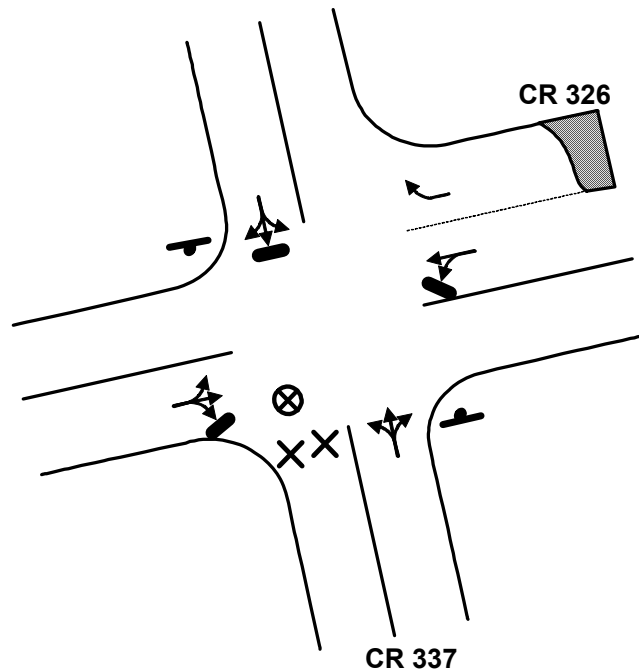
**Figure G-4. Levy Nuclear Plant
Access Control Points**

ACP

TOWN: MORRISTON

LOCATION: CR 326 & CR 337

ACP ID: Q1-01



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Interdict and direct southbound movement on CR 337

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 2 Traffic Barricades

LOCATION PRIORITY

3



****Traffic Guide should position himself safely**

ACP

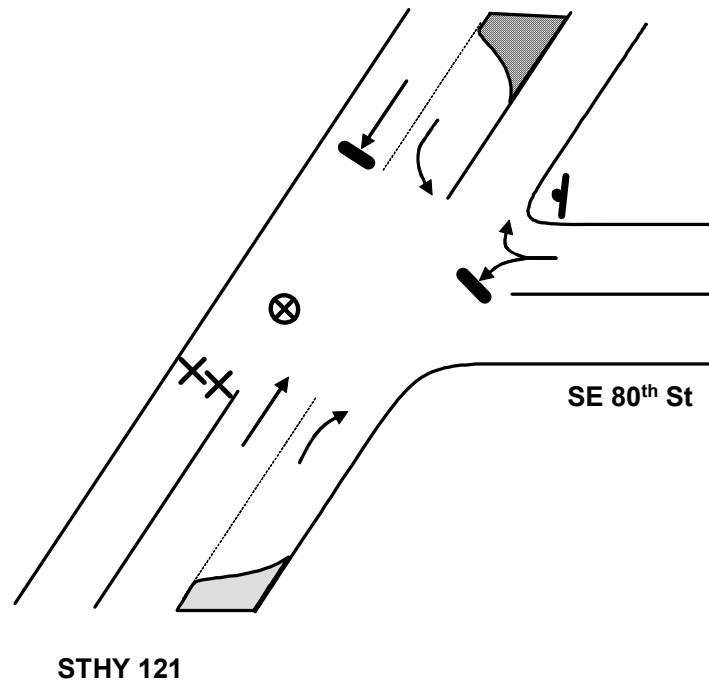
TOWN: MORRISTON

LOCATION: STHY 121 & SE 80th St

ACP ID: Q1-02

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft



ACTIONS TO BE TAKEN

1. Interdict and divert southbound movement on STHY 121

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 2 Traffic Barricades

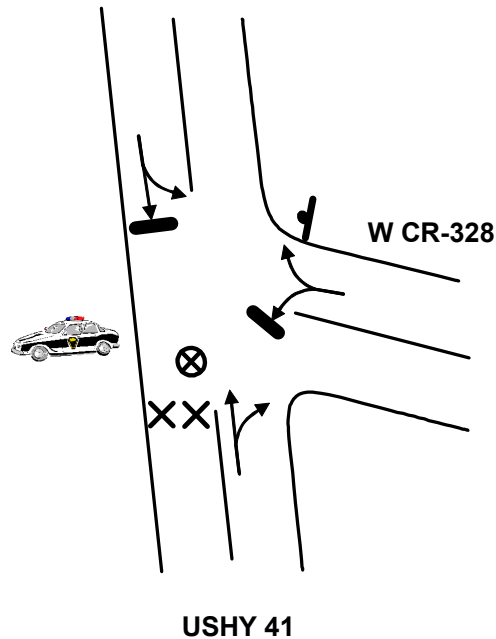
LOCATION PRIORITY

2

****Traffic Guide should position himself safely**

ACP

TOWN: DUNNELLON
LOCATION: USHY 41 & W CR-328
ACP ID: Q1-03



KEY

- MOVEMENT FACILITATED
- STOP SIGN
- ⊗ TRAFFIC GUIDE
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft
- POLICE CAR

ACTIONS TO BE TAKEN

1. Interdict and divert southbound movement on USHY 41

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 2 Traffic Barricades

LOCATION PRIORITY

2



****Traffic Guide should position himself safely**

ACP

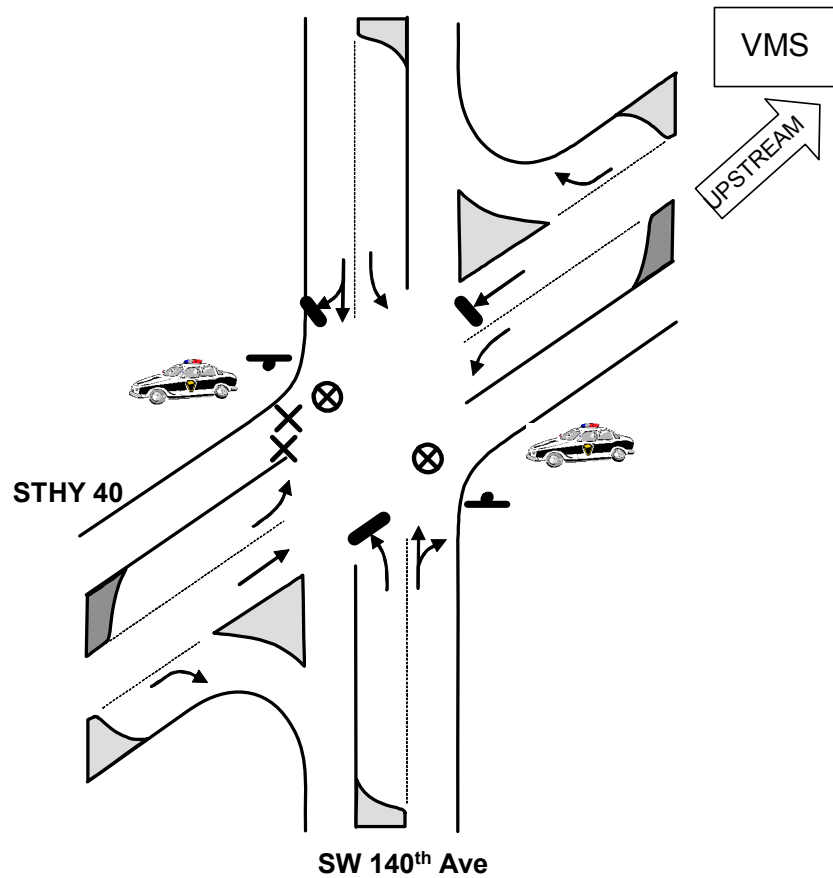
TOWN: DUNNELLON

LOCATION: STHY 40 & SW 140th Ave

ACP ID: Q1-04

KEY

- MOVEMENT FACILITATED
- MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft
- POLICE CAR



ACTIONS TO BE TAKEN

1. Interdict and divert westbound movement on STHY 40
2. Due to high speeds, curves of road will need signage warning of approach. Position Variable Message Sign (VMS) upstream warning motorists to slow down.

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 2 Traffic Barricades

LOCATION PRIORITY

1

****Traffic Guide should position himself safely**







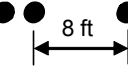

ACP

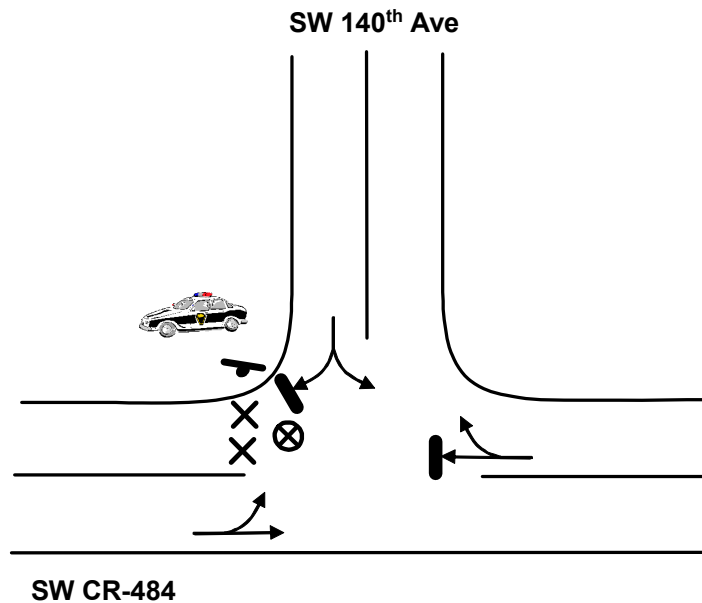
TOWN: DUNNELLON

LOCATION: Ned Folks Hwy/SW CR-484 & SW 140th Ave

ACP ID: Q2-01

KEY

- MOVEMENT FACILITATED
-  MOVEMENT DISCOURAGED/DIVERTED
-  TRAFFIC GUIDE
-  STOP SIGN
-  TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
-  TRAFFIC SIGNAL
-  TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): 
-  POLICE CAR



ACTIONS TO BE TAKEN

1. Interdict and divert westbound movement on SW CR-484

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 2 Traffic Barricades

LOCATION PRIORITY

2



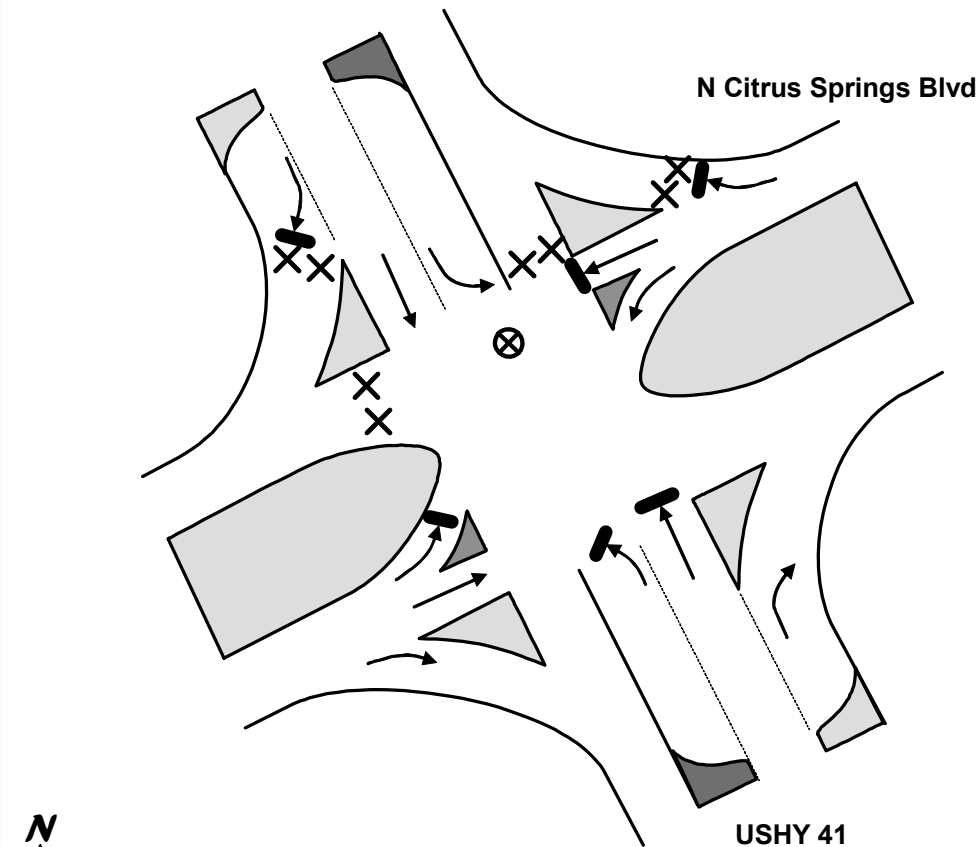
****Traffic Guide should position himself safely**

ACP

TOWN: CITRUS SPRINGS

LOCATION: USHY 41 & N Citrus Springs Blvd

ACP ID: Q2-02



****Traffic Guide should position himself safely**

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Interdict and divert northbound movement on USHY 41
2. Interdict and divert westbound movement on N Citrus Springs Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 8 Traffic Barricades

LOCATION PRIORITY

1

ACP

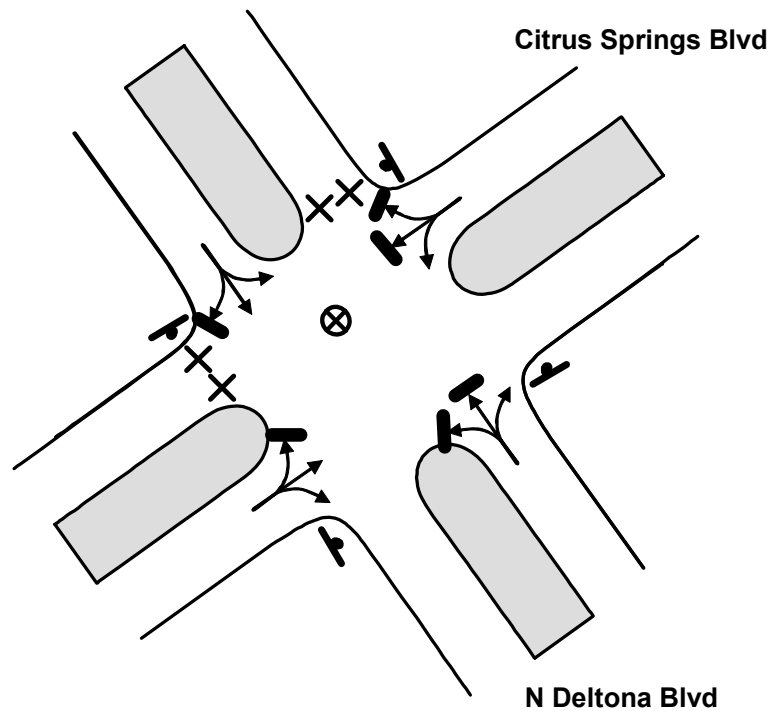
TOWN: CITRUS SPRINGS

LOCATION: N Deltona Blvd & Citrus Springs Blvd

ACP ID: Q2-03

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊥ STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft



ACTIONS TO BE TAKEN

1. Interdict and divert northbound movement on N Deltona Blvd
2. Interdict and divert westbound movement on Citrus Springs Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 4 Traffic Barricades

LOCATION PRIORITY

2



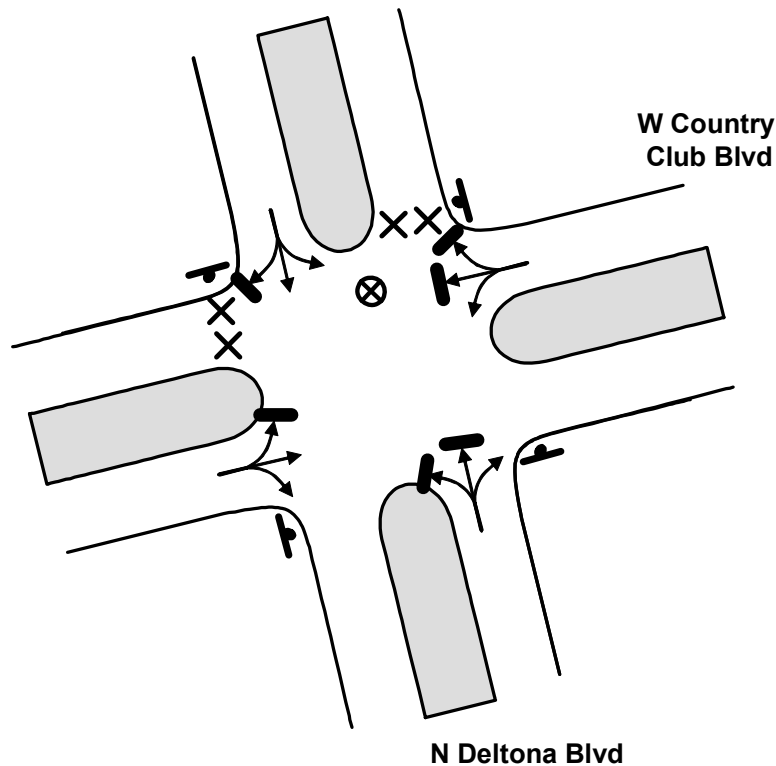
****Traffic Guide should position himself safely**

ACP

TOWN: CITRUS SPRINGS

LOCATION: N Deltona Blvd & W Country Club Blvd

ACP ID: Q2-04



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊥ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Interdict and divert northbound movement on N Deltona Blvd
2. Interdict and divert westbound movement on W Country Club Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 4 Traffic Barricades

LOCATION PRIORITY

2

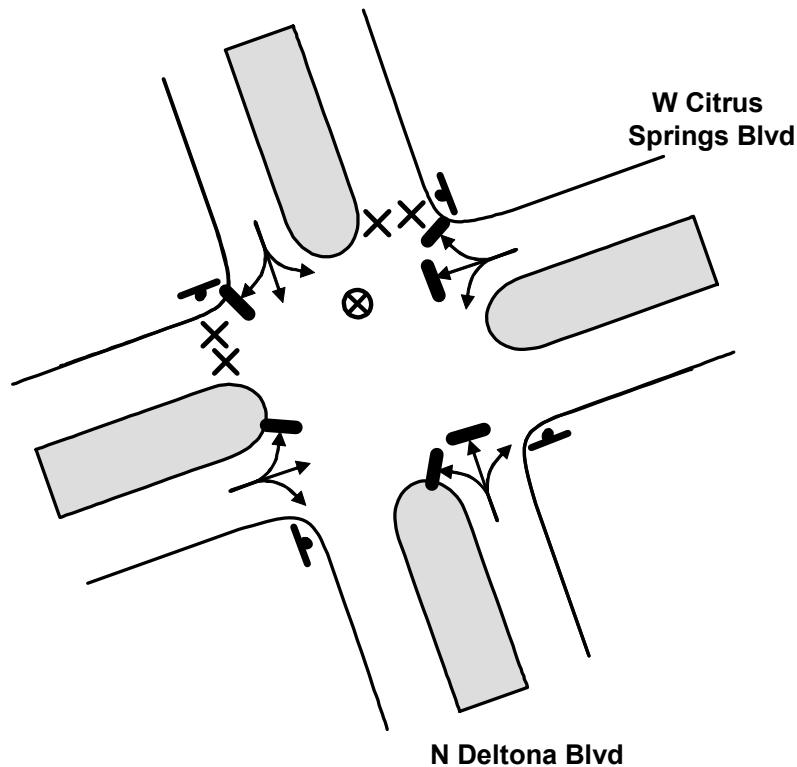
****Traffic Guide should position himself safely**

ACP

TOWN: CITRUS SPRINGS

LOCATION: N Deltona Blvd & W Citrus Springs Blvd

ACP ID: Q2-05



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⊥ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Interdict and divert northbound movement on N Deltona Blvd
2. Interdict and divert westbound movement on W Citrus Springs Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 4 Traffic Barricades

LOCATION PRIORITY

2

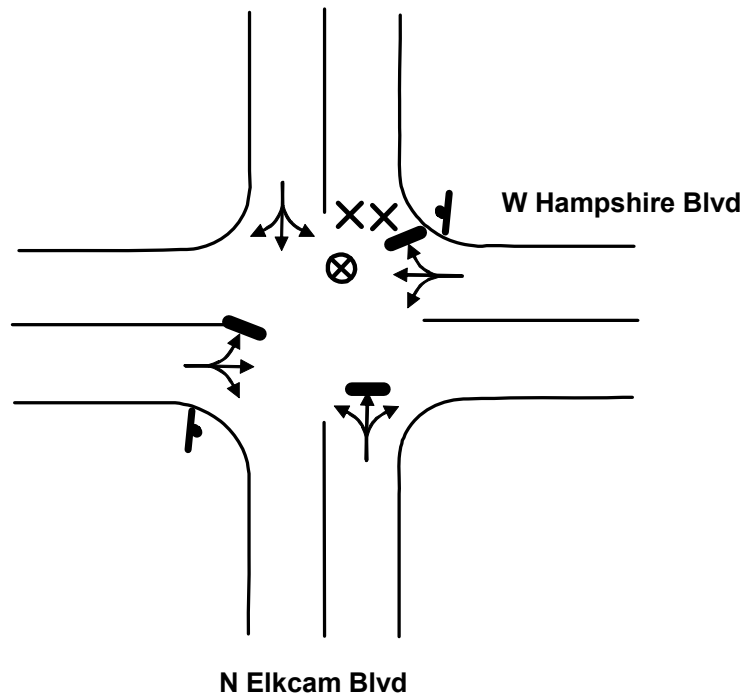
****Traffic Guide should position himself safely**

ACP

TOWN: CITRUS SPRINGS

LOCATION: N Elkcarn Blvd & W Hampshire Blvd

ACP ID: Q2-06



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft

ACTIONS TO BE TAKEN

1. Interdict and divert northbound movement on N Elkcarn Blvd

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 2 Traffic Barricades

LOCATION PRIORITY

3



****Traffic Guide should position himself safely**

ACP

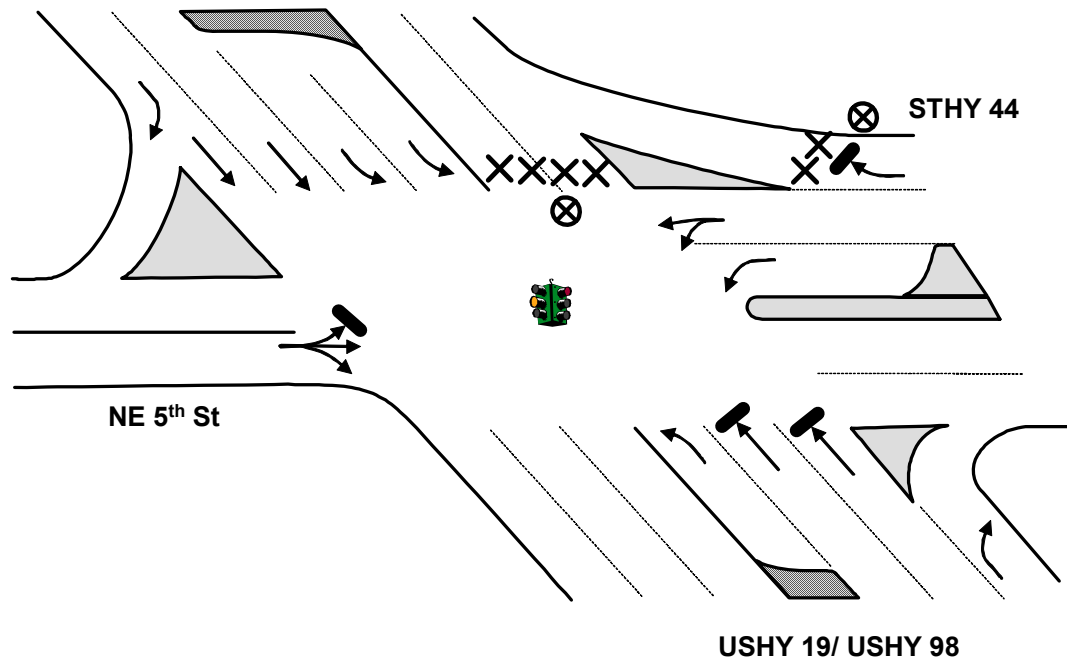
TOWN: CRYSTAL RIVER

LOCATION: STHY 44 & USHY 19 / USHY 98

ACP ID: Q2-07

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● 8 ft



ACTIONS TO BE TAKEN

1. Interdict and divert northbound movement on USHY 19/USHY 98

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 6 Traffic Barricades

LOCATION PRIORITY

1

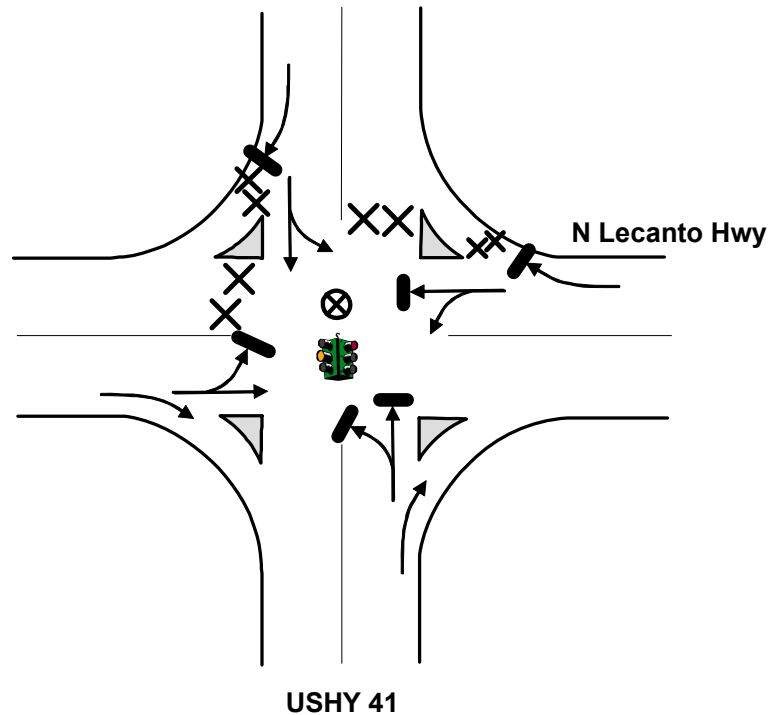
****Traffic Guide should position himself safely**

ACP

TOWN: HOLDER

LOCATION: USHY 41 & N Lecanto Hwy

ACP ID: Q2-08



KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- STOP SIGN
- × TRAFFIC BARRICADE
 - 2 PER LANE (LOCAL ROADS AND RAMPS)
 - 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft

ACTIONS TO BE TAKEN

1. Interdict and divert northbound movement on USHY 41
2. Interdict and divert westbound movement on N Lecanto Hwy

MANPOWER/EQUIPMENT ESTIMATE

- 1 Traffic Guide(s)
- 8 Traffic Barricades

LOCATION PRIORITY

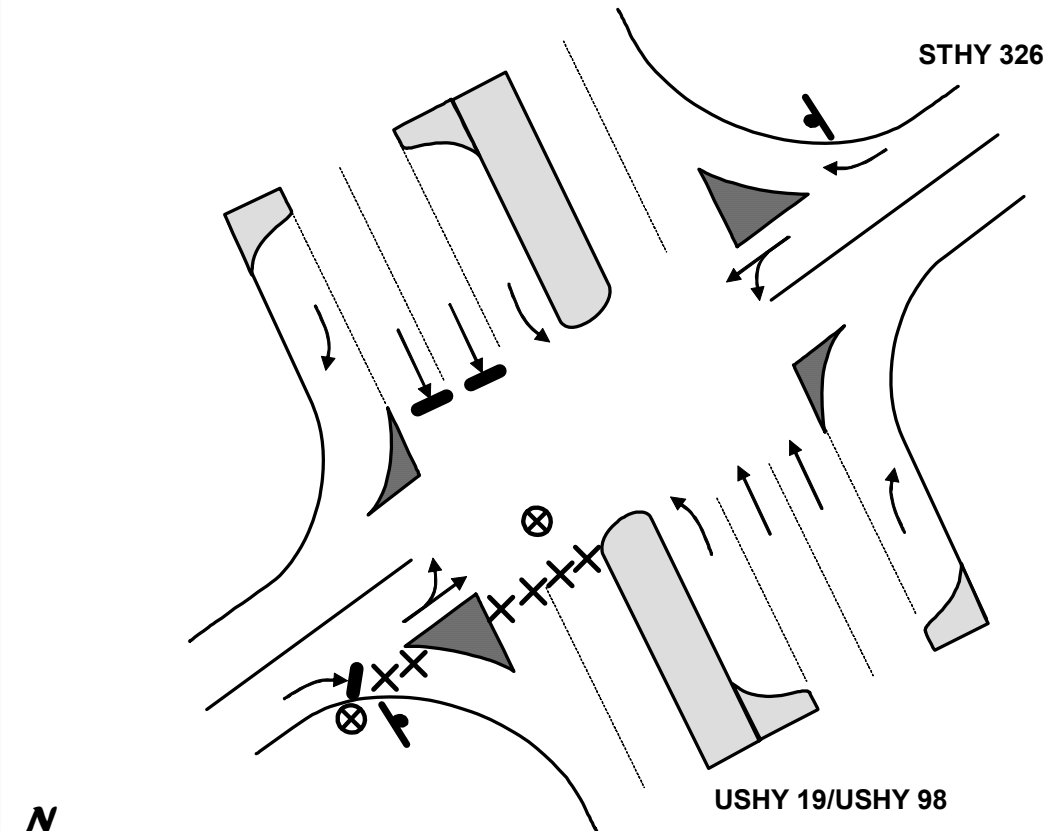
1



****Traffic Guide should position himself safely**

TOWN: OTTER CREEK
LOCATION: USHY 19 / USHY 98 & STHY 326
ACP ID: Q4-01

ACP



****Traffic Guide should position himself safely**

KEY

- MOVEMENT FACILITATED
- | MOVEMENT DISCOURAGED/DIVERTED
- ⊗ TRAFFIC GUIDE
- ⬮ STOP SIGN
- ⊗ TRAFFIC BARRICADE
- 2 PER LANE (LOCAL ROADS AND RAMPS)
- 4 PER LANE (FREEWAY AND RAMPS)
- 🚦 TRAFFIC SIGNAL
- ● TRAFFIC CONES SPACED TO DISCOURAGE TRAFFIC BUT ALLOW PASSAGE (3 PER LANE): ● ● ● 8 ft

ACTIONS TO BE TAKEN

1. Interdict and divert southbound movement on USHY 19/USHY 98

MANPOWER/EQUIPMENT ESTIMATE

- 2 Traffic Guide(s)
- 6 Traffic Barricades

LOCATION PRIORITY

1