Appendix C - Traffic Modeling and Analysis

Draft Environmental Impact Statement
For Route 92

Proposed by:

New Jersey Turnpike Authority

Prepared by:

Urbitran Associates, Inc.

Montville, New Jersey

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PART A: Description of Traffic Model

1. INTRODUCTION

A review of documentation and data from the prior Route 92 traffic studies identified a number of methodological issues suggesting that new traffic analyses should be performed as part of this EIS:

- The travel-demand model used in prior studies was a preliminary version of the Statewide Transportation Planning Model. The model has gone through a series of subsequent enhancements and updates;
- The most recent version of this model is a 22-county model that URS developed for the Penns Neck EIS. Compared with the version used for the prior Route 92 analyses, the current model has a number of features that make it more appropriate for use in analyzing Route 92, including:
    - Rather than performing a single, 24-hour traffic assignment, the new 22-county model performs a separate traffic assignment for peak and off-peak periods. This is critical for the analysis of tolled highways in metropolitan areas, which tend to have considerably different peaking patterns as compared with non-tolled highways of similar quality.
    - The new model also uses projected trip tables based on more recent economic projections.
- Signal retiming along US Route 1 has resulted in improved traffic flow along US Route 1 at the expense of the intersecting roads. The retiming may affect routings of some trips in this area, and has affected the performance of the intersections along US Route 1 (and possibly others);
- In addition, it is clear that potential additional improvements to US Route 1 in North and South Brunswick could potentially serve some of the trips that Route 92 is intended to serve. Therefore, a closer look at the future of US Route 1, and its impact on the need for Route 92, was warranted; and
- The prior studies did not consider the effects of the planned Penns Neck (formerly Millstone) Bypass. While Penns Neck is intended to address local traffic circulation, there was a concern that, when taken together with the new Hightstown Bypass, it may also provide another attractive east/west route, serving some of the trips that Route 92 is intended to serve, particularly during off-peak travel periods.

In addressing these issues, the current EIS was able to take advantage of the existence of several new models and databases that have been developed since the prior traffic analyses were performed:

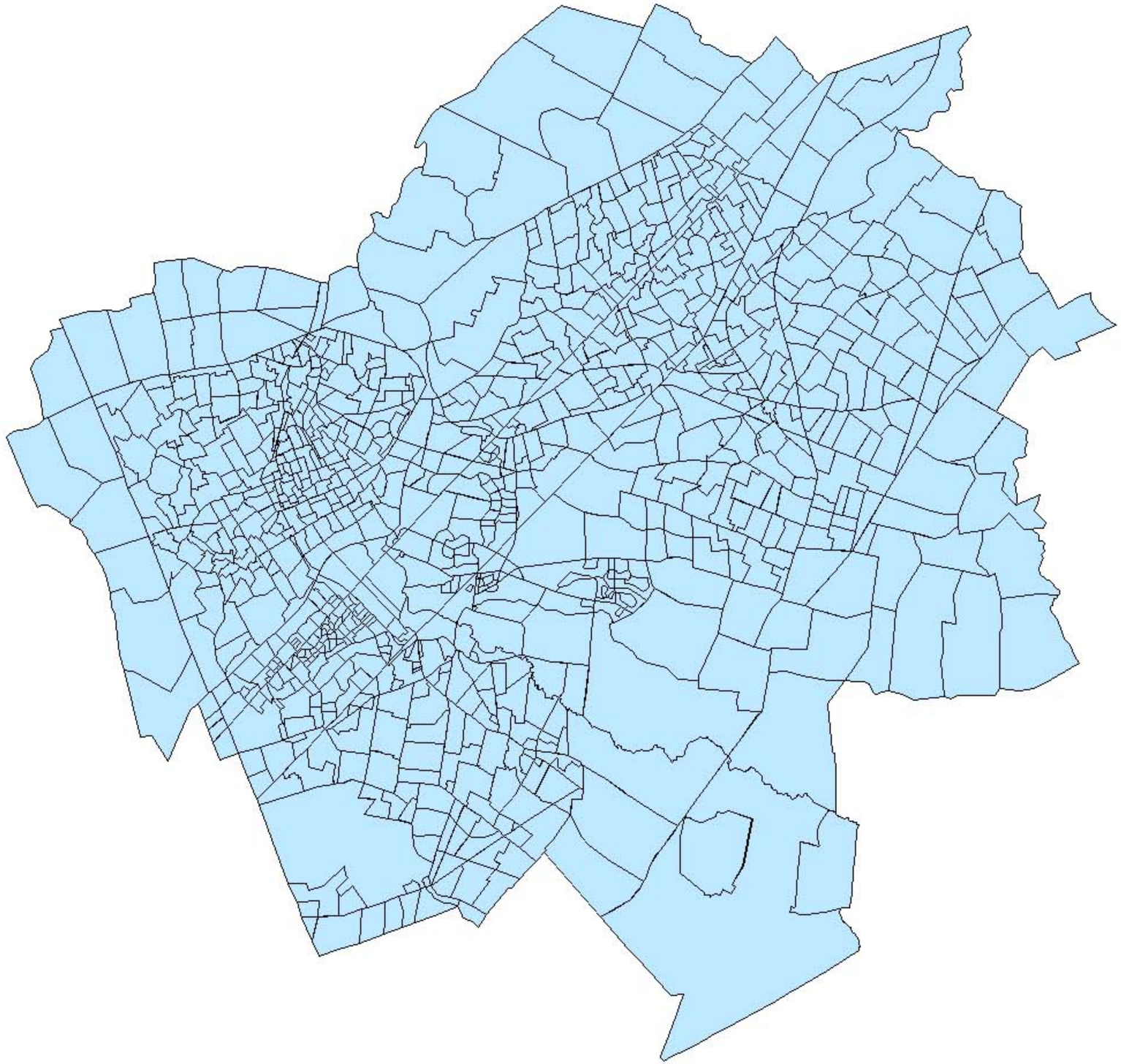
- A detailed "local model," recently developed for the Penns Neck EIS, has been found to perform excellently with respect to analyzing alternatives for this project;
- A detailed inventory of existing and planned land use in the area covered by this model (essentially the towns of West Windsor, Princeton Township, Princeton Borough, and Plainsboro);
- A similar detailed model for the South Brunswick area developed several years ago by Urbitran Associates; and

- A detailed inventory of existing and planned land use for South Brunswick.

Considering the issues and opportunities described above, it was decided to develop a new "Central Jersey" traffic model, which merges the Penns Neck and (updated) South Brunswick models in full detail, while adding East Windsor/Hightstown, and parts of North Brunswick and East Brunswick, such that this new model provides a detailed representation of the entire area from New Jersey Route 18 in the north to Mercer County Route 571 in the south, and from the New Jersey Turnpike and Middlesex County Route 535 on the east to New Jersey Route 27 on the west.

The remainder of Part A of this Appendix describes the specifics of this model, its relationship with the new 22-county model developed for the Penns Neck EIS, and its validation for year 2001 conditions.

Route 92 Traffic Model Zones



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2. LAND USE

2.1 Zone System

The new Central Jersey traffic model uses 985 traffic analysis zones to represent its area of coverage, as follows:

Town	Number of Zones
West Windsor	233 (with numbers in the range 1-500)
Princeton (town and borough)	238 (with numbers in the range 501-1000)
Plainsboro	110 (with numbers in the range 1001-1222)
South Brunswick (and vicinity)	323 (with numbers in the range 1225-1700)
Cranbury (and vicinity)	25 (with numbers in the range 1701-1743)
East Brunswick	16 (with numbers in the range 1745-1760)
North Brunswick (and vicinity)	32 (with numbers in the range 1765-1801)
East Windsor and Hightstown	8 (with numbers in the range 1806-1814)

In the five "core" municipalities (Princeton Town, Princeton Borough, West Windsor, Plainsboro, and South Brunswick), these zones are much smaller than the zones used in regional models. This permits more precise estimation of traffic flows within these municipalities. A map of the model zones is shown in an accompanying pullout sheet.

In addition, the base year (2001) model uses 53 "external stations" to represent entry and exit points to/from this area.

2.2 2001 Land Use

As will be discussed in Section 4 below, peak-hour vehicular origin-destination matrices for the Central Jersey area were prepared using a linked set of regional and local models. The regional 22-county model provides data relating to the orientation, mode choice, and route usage of long distance travel. The regional model essentially provides the context within which travel in the Central Jersey study area is conducted.

The local traffic model is nested within the regional model and uses the contextual data that it provides. The chief output of the local model is a set of detailed traffic assignments to the streets and highways of the study area. The local model also provides a comprehensive database of existing and future land use, which drives the estimation of trip making in the local area. Both the local and regional models use this land use database.

The land use and demographic inventories and forecasts are critical components of the travel modeling process because they provide the basis for computing travel activity. For each of the 985 traffic analysis zone, the land use is described in terms of 20 different land use categories. In practice, this level of detail means that in most commercial areas, a zone is equivalent to a specific building, and in residential areas a zone is equivalent to a small neighborhood or block.

The Central Jersey land use inventory and forecast builds upon 15 years of maintaining land use data for the Princetons (Town and Borough), West Windsor and South Brunswick. Land use inventories in all four communities were built up from property tax and census records in

the 1980's, and have been refined and maintained since that time. The Princeton and West Windsor traffic models were merged for the Penns Neck EIS, and Plainsboro was added. A new inventory for Plainsboro was developed as part of the Penns Neck Bypass work. South Brunswick data were updated in 1996 for NJDOT's US Route 1 Needs Assessment, and those data were added to the Penns Neck data to form this Central Jersey inventory.

The following procedures were used to update and validate the land use forecasts:

1. Special generators were identified from field inventories and knowledge of the area. Employers were contacted and employment totals estimated for each. These special generators and their traffic generation, population, and employment are shown in the table on the next page. The most significant special generator is Princeton University, which employs about 5,000 benefit-eligible persons and has about 4,550 undergraduate students and 1,500 graduate students.

2. Household size and employment densities were estimated for each of the land uses. For purposes of this analysis and validation of totals, consistent factors were applied across the study area.

3. Princeton Borough residential totals were reexamined and crosschecked against 2000 Census household totals. Commercial properties had been identified during an update in 1997. The database was reexamined and field checks made to identify new construction; it was found to be minimal within the Borough. Household totals were compared with Census totals and found to be consistent (3,465 inventoried households in 2001 vs. 3,326 households estimated by Census in 2000). Employment totals were compared to 1999 NJ Department of Labor estimates. Employment allocated to Princeton Borough by NJDOL was considerably higher than the inventory – 16,670 vs. 5,561 jobs. However, because the study area totals align, it was concluded that the NJDOL data contains significant problems in allocating employment among the Princeton zip code municipalities. Therefore, the totals built up from land use were assumed to have precedence.

4. Princeton Township residential properties were first established through a parcel-based property tax database analysis in 1986. As construction has since proceeded, the database has been updated. In this analysis, field inspections were made to validate the database. The estimated 2001 population is slightly higher than 2000 Census (16,947 vs. 16,027 persons). Households are slightly lower than Census (6,018 vs. 6,044 dwelling units). The employment is significantly lower than NJDOL estimates (5,854 vs. 8,264 jobs). Again, it was concluded that allocation problems among the Princeton zip codes are at the root of the employment discrepancy, and the land-use based totals were assumed to be more accurate.

5. The West Windsor Township land use database has been closely maintained and updated annually since 1988. Those data were reviewed, compared with known totals, field checked, and compared with Census for this study. The number of households estimated in 2001 is slightly higher than the Census total for 2000 (7,443 vs. 7,282 dwelling units). Population is slightly higher than Census (22,911 vs. 21,907 persons). Finally, employment developed from 2001 land use is higher than NJDOL estimates for 1999 (18,991 vs. 17,086 jobs). This difference is attributable in part to construction that occurred between 1999 and 2001.

6. Plainsboro Township data were newly developed for this study from developer inventories, field inventories, and Census block data. Of particular use was a development master plan traffic study, provided by Princeton Forrestal Center[1], which itemized each existing and future building lot within the project. Because the land use – based totals were assumed to be exceptionally accurate, based on the Princeton Forrestal report, it was assumed that the large discrepancy between land-use based employment and NJDOL estimates (27,266 vs. 13,999 jobs) was caused by allocation problems within the Princeton zip codes. The number of inventoried households was slightly higher than Census (9,438 vs. 8,742 dwelling units) and, similarly, the inventory estimate of population was slightly higher than Census (21,865 vs. 20,215 persons).

7. South Brunswick land use data were compiled from prior inventories and updated to be consistent with estimates for the Township compiled by the Penns Neck EIS study from regional data. Altogether the database indicates a population of 38,214 persons in 2001, and employment of 31,121 persons in the same year within South Brunswick Township.

The estimates of year 2001 population and employment for seven municipalities in the Central Jersey area are as follows:

MUNICIPALITY	POPULATION	EMPLOYMENT
	2001 Estimate	2001 Estimate
Cranbury Township	3,231	6,621
Monroe Township	28,513	7,974
Plainsboro Township	21,865	27,266
Princeton Borough	15,054	5,561
Princeton Township	16,947	5,854
South Brunswick Township	38,214	31,121
West Windsor Township	22,911	18,991
TOTAL	146,735	103,388

Source: Penns Neck Area EIS, Land Use Inventory and Forecast Study, Urbitran Associates, July, 2002.

[1] Third Updated Comprehensive Traffic Study, Princeton Forrestal Center and Kingston Area, Orth Rodgers Associates, Inc., December 1998. Adjustments to some totals were made based on current data provided by Princeton Forrestal Center.

3. HIGHWAY NETWORK

3.1 Link Characteristics

Year 2001 detailed highway network for the area described above was created by combining the highway networks for the Penns Neck local model and the South Brunswick model, removing duplicate links, and adding links for the main roads in East Windsor/Hightstown.

The resulting network link database is similar to the link data used in all highway network planning models, in that each link is associated with certain basic characteristics: two node numbers (one representing the node at each end of the link), a distance, a number of lanes (in each direction), and a facility type (which, together with the number of lanes, is used to determine the uncongested operating speed and the vehicle-carrying capacity of the link).

Facility type is an indication of the physical attributes of a roadway that affect free-flow speed and capacity. Such attributes include: lane width, median treatment, signal spacing, driveway spacing, shoulder treatment, and horizontal and vertical curvature. The facility types used in the detailed Central Jersey model, along with the attributes that define each type, are listed in the tables on the following pages.

The accompanying map shows the roadways included in this network, the facility types of these roadways, and the number of lanes by direction.

In addition, this network contains additional link data items for use in a special procedure developed by Urbitran Associates (and implemented successfully in the South Brunswick, Penns Neck, and other models) for improving the modeling of delays at intersections. Typically, an intersection is represented as a node having no time penalty associated with it. In reality, the presence of a traffic control device such as a stop sign or a signal introduces some measure of delay, even under free-flow conditions (i.e., with no traffic congestion). This can be important in traffic assignment, when a path using a freeway is being compared to a path using a signalized arterial, for example. Such delays increase greatly as the volume of traffic approaching an intersection during a certain time interval approaches or exceeds the capacity of the intersection approach.

Regional traffic models generally do not explicitly consider control devices. The usual reason given is that the influence of these devices is insignificant at the regional level, and the great effort needed to establish and maintain an inventory of such devices is not sufficiently worthwhile.

However, for detailed models of smaller areas, the explicit coding of control devices is both feasible and desirable. The Urbitran procedure uses theoretically derived capacity

CENTRAL JERSEY TRAFFIC MODEL FACILITY TYPES

FACILITY TYPE	FACTYPE VALUE	(Criteria listed in order of decreasing importance, from left to right.)							
		Function of Road	**Median**	**Turn Lanes**	**Shoulder**	**Lanes**	**Control Device**	**Curb Cuts**	**Parking**
Freeway	1	full control, limited access facility to serve regional traffic	always exists: raised guide rail, or grass	none	always greater than 6 feet	always has at least two lanes per direction; lanes at least 12 feet wide	none	none	none
Arterial Class 1	2	primarily serves regional traffic and provides access to abutting land use as a secondary function	usually has median, especially if no CTL exists	usually has a CTL; if no CTL exists, will have frequent LTL	usually shoulder is approx. 6 feet wide or greater	1-2 lanes per direction; lanes at least 12 feet wide	signals usually 0-3 per mile	few driveways	usually parking is not permitted
Arterial Class 2	3	primarily provides both land access and traffic circulation service within residential, commercial, & industrial areas	usually has median especially if no CTL exists	sometimes has CTL, if no CTL exists will have frequent LTL	usually greater than or equal to 6 feet	usually only 1 lane per direction lanes usually 12 ft wide	Signals usually 0-10 per mile	possibly many driveways	possibly parking is permitted
Collector Class 1	4	primarily provides both land access and traffic circulation service within residential, commercial, and industrial areas	usually has median especially if no CTL exists	sometimes has CTL, if no CTL exists will have frequent LTL	usually shoulder is less than 6 feet	usually only 1 lane per direction; usually lanes are 12 ft wide	Signals usually 0-10 per mile	possibly many driveways	usually parking is permitted during all hours
Collector Class 2	5 or 6	primarily provides both land access and traffic circulation service within residential, commercial, and industrial areas	rarely has a median	rarely has CTL, or frequent turn lanes	usually shoulder is less than 6 feet	usually only 1 lane per direction lane width varies	signals / stop signs usually 0-10 per mile	possibly many driveways	usually parking is permitted during all hours

CENTRAL JERSEY TRAFFIC MODEL FACILITY TYPES (cont.)

FACILITY TYPE	FACTYPE VALUE	(Criteria listed in order of decreasing importance, from left to right.)							
		Function of Road	**Median**	**Turn Lanes**	**Shoulder**	**Lanes**	**Control Device**	**Curb Cuts**	**Parking**
Local Street	8	serves strictly to provide access to residential or local business areas	rarely has a median	rarely has turn lanes	usually shoulder is less than 6 feet	usually only 1 lane per direction, usually about 12 ft wide	stop signs / signals usually 1-10 per mile	usually many driveways	usually parking is permitted during all hours
Centroid Connector	9	a link used to connect a zone centroid to roadway links, should represent local streets	none	none	none	always only 1 lane per direction; lane width assumed to be normal	none	none	none
Jughandle	10	lower level ramp with slower speeds, usually requiring a stop at the major facility	usually has raised median or guide rail	sometimes has LTL or RTL at the end of the ramp	varies	usually only 1 lane per direction, about 12 feet wide	signal / stop signs	none	none
Freeway Ramp	11	high level ramp providing adequate merge to major facility without a signal or stop sign	usually has raised median or guide rail	none	varies	usually only 1 lane per direction, usually 12 feet wide	usually does not require a stop by the vehicle	none	none

2001 Existing Condition

Highway Facility Types and Number of Lanes

US Army Corps of Engineers

Proposed Route 92

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and delay formulas to adjust the initial link free-flow speed and capacity, based on the link distance and the presence of a control device at its downstream ("B") node.

The procedure requires the addition of several link data fields, which are::

- CDEV – a link variable, if non-zero in either direction, indicates the presence and type of a control device at the end of the link headed in the relevant direction. The possible values of this variable are:

  1, for a stop sign

  2, for a yield sign

  3, for a traffic signal (major approach)

  4, for a traffic signal (minor approach)

- ADDLNS – a link variable indicating the number of turning lanes (for either right or left turns) that is added at the approach to the intersection at the end of the link.

- AMCYCLE/PMCYCLE – the (a.m. peak or p.m. peak) cycle length (in seconds) of a signal at the end of a link.

- AMGC/PMGC – the (a.m. peak or p.m. peak) green time-to-cycle length (G/C) percentage for the approach to a signalized intersection at the end of a link.

- ARRTYPE – the HCM "arrival type" (divided by 10), which denotes the level of signal progression.

The maps on the following pages display the nodes in the 2001 Central Jersey network where traffic signals, stop signs, and yield signs are coded via use of the CDEV variable.

If CDEV is non-zero, and no values are coded for the other variables, the model will insert default values for these variables, depending on the value of CDEV and the facility type of the link. The table on the following page shows specific cycle length and G/C values that were used for key intersections where specific information was available.

It should be noted that this procedure is not intended to replace HCM-type analysis for determination of intersection Level-Of-Service, but rather to improve the ability of traffic assignments to reflect the impacts of significant intersection improvements, such as signal retiming or adding turn lanes.

Finally, a TRUCK "flag" variable is used to identify links that cannot be used by trucks. In the base year (2001) network, this variable is used only for the purpose of assessing the proper tolls to autos and trucks using the sections of the New Jersey Turnpike within the modeled area.

2001 Existing Condition
Location of Stop and Yield Signs

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Location of Stop and Yield Signs
⊗ Stop/Yield Sign

2001 Existing Condition
Location of Traffic Signals

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Location of Traffic Signal
⊗ Traffic Signal

SIGNAL TIMING DATA

Intersection		AM			PM		
		Cycle Length (sec)	Green/Cycle (percent)		Cycle Length (sec)	Green/Cycle (percent)	
Major Road	Minor Road		Major	Minor		Major	Minor
Route 1	Nassau Park Blvd	240	78	8	120	51	17
Route 1	Meadow Rd	240	70	20	240	70	20
Route 1	Carnegie Center Blvd	240	75	10	120	52	20
Route 1	Washington Rd	240	64	29	120	67	20
Route 1	Fisher Place	240	80	14	120	60	28
Route 1	Harrison St	240	70	17	120	61	17
Route 1	Independence Way	240	75	7	120	55	17
Route 1	Ridge Rd	240	75	7	120	55	17
Route 1	Raymond Rd	240	80	14	120	60	28
Route 1	Rt 522 / Promenade Blvd	140	67	24	140	67	24
Route 1	New Rd	140	70	21	140	70	21
Route 1	Sand Hills Rd / Major Rd	135	70	16	135	70	16
Route 1	Cozzens Lane	140	59	33	140	59	33
Route 27	Rt 522 / Promenade Blvd	90	57	23	90	57	23
Scudders Mill Rd	Schalk's Crossing Rd	70	47	14	70	47	14
Scudders Mill Rd	Dey Rd	85	55	24	85	55	24
Rt 535	Plainsboro Rd	70	37	37	70	37	37
Rt 535	Dey Rd	120	69	17	120	69	17
Rt 535	Prospect Plains Rd	120	65	21	120	65	21
Rt 32	Rt 535	135	54	28	135	54	28
Rt 130	Friendship Rd	90	50	28	90	50	28
Rt 130	Park-n-Ride Lot	90	67	11	90	11	67
Rt 130	Dey Rd	120	56	23	120	56	23
Rt 522	Kingston Lane	100	41	27	100	41	27
George Rd	Kingston Lane	70	64	14	70	64	14

3.2 Link Speed and Capacity

The link attributes which most directly affect the routing of traffic are the link free-flow speed and capacity. The free-flow speed is that speed at which traffic can operate if unhindered by surrounding traffic. In the model, free-flow speed serves as the starting point for the first iteration of traffic assignment.

Capacity is the maximum volume of traffic that can pass through a link within a given time interval (usually one hour). In the model, capacity is used in the computation of link volume-to-capacity (V/C) ratios, which are in turn used to compute congested link speeds that are used in the next assignment iteration.

In the detailed Central Jersey model, as is most transportation planning models; link free-flow speeds and per-lane capacities are assigned by the model as a function of link facility type. This approach is an efficient and ensures consistency among links of the same type. The following tables show the link free-flow speeds and per-lane capacities used for links with no control device (CDEV = 0):

Facility Type	Free Flow Speed (mph)	Per-lane Hourly Capacity
1 (Freeway)	60	1750
2 (Arterial 1)	50	1575
3 (Arterial 2)	40	1300
4 (Collector 1)	40	900
5/6 (Collector 2)	20	500
8 (Local Street)	20	375
9 (Centroid Connector)	20	9999*
10 (Jughandle)	45	1400
11 (Freeway Ramp)	25	900

*Note: Capacity restraint is not performed on centroid connectors.

For links with a control device at the "B" node, the model adjusts the free-flow speed and per-lane capacity values using intersection delay and capacity calculations based on formulas in the Highway Capacity Manual.

3.3 Turn Prohibitions

In a detailed highway network, it is often necessary to specify turns that are not allowed at certain intersections. In our study area, there are many such prohibited turns, due to the use of "jug handles" for turning movements. This is particularly true along US Route 1, where there are no turns permitted at any of the signals. In order to prevent the model from allowing these turns and other illogical movements, 113 turn prohibitions were specified for the base year network.

3.4 Traffic Counts

A.M. and P.M. peak hour traffic counts for 2000-2002 were obtained from numerous sources, including:

- The NJDOT web site
- Counts taken by Urbitran for the Penns Neck EIS, this EIS, and various development impact studies
- Counts taken by various other firms for West Windsor Township and others.

This count information was coded into the network link database, and is displayed in an accompanying series of network plots.

4. TRIP TABLE GENERATION

Peak-hour vehicular origin-destination matrices for the Central Jersey area were prepared using a linked set of regional and local models. The regional 22-county model developed for the Penns Neck EIS was executed to create a set of "sub area" vehicle trip matrices for the area covered by the Central Jersey traffic model. Four vehicle trip matrices (auto home-based work trips, auto home-based non-work trips, auto non-home-based trips, and truck trips) were generated for each of two time periods: a 2-1/2 hour morning peak period, and a 3-hour evening peak period.

At the same time, standard ITE vehicle trip generation rates were applied to the detailed Central Jersey area land use inventory to estimate the number of vehicles entering and leaving each Central Jersey model zone during the a.m. and p.m. peak hours. This information was used to derive factors that were used to allocate the trips in the sub area matrices from the zones in the regional model to the much more detailed Central Jersey model zones. The resulting trip tables were then factored to ensure that the number of vehicles entering and leaving each zone agreed with the numbers obtained using the ITE rates, to convert from peak periods to peak hours, and to obtain the proper balance between internal and external trip-ends.

The trip tables resulting from this factoring process were then further modified through the "adaptable" traffic assignment procedure discussed in Section 5.2 below.

LOCAL AREA MODEL SPECIAL GENERATORS

ZONE	LOCATION	PARKING SPACES	Peak Hour Vehicle Trips AM In	AM Out	AM Total	PM In	PM Out	PM Total	Population	Employment
Public Parking Lots:										
703	Chambers St. Garage	300 spaces	144	36	180	63	147	210		
		0.6 trips/space/hr am, 0.7 trips/space/hr pm								
704	Spring St. Parking Lot	100 spaces	48	12	60	21	49	70		
		0.6 trips/space/hr am, 0.7 trips/space/hr pm								
601	Dinky RR Sta Parking Lot	100 spaces	40	0	40	0	40	40		
		0.4 trips/space/hr								
Princeton Junction Train Station:										
	Trips / space: In Out									
	AM 0.10 0.01									
	PM 0.02 0.15									
100	NJ Transit Daily	620 spaces	62	6	68	12	93	105		
102	NJ Transit Alexander Lots	1800 spaces	180	18	198	36	270	306		
103	WWPA Vaughn Drive	323 spaces	32	3	35	6	48	54		
120	WWPA Wallace (North)	270 spaces	27	3	30	5	41	46		
121	WWPA Wallace (South)	330 spaces	33	3	36	7	50	57		
	TOTAL	3343 spaces								
Institutions:										
709	Princeton Medical Center	1070 spaces	391	227	618	159	330	489		400
706	YMCA/YWCA		50	20	70	100	130	230		50
Colleges / Universities:										
Princeton University										
	Trips / space: In Out									
	AM 0.48 0.12	Source: Jacquemart study for Princeton U.								
	PM 0.10 0.44									
596	15, Jadwin	139 spaces	67	17	84	14	61	75		147
597	21	700 spaces	336	84	420	70	308	378		740
599	5,20,28A,1941 Hall	535 spaces	257	64	321	54	235	289		566
600	12,16,23,28,Boiler Hse,Garage	1540 spaces	739	185	924	154	678	832		628
601	22,29	64 spaces	31	8	39	6	28	34		68
608	19,24	279 spaces	134	33	167	28	123	151		139
610	7,Boat Hse	253 spaces	121	30	151	25	111	136		67
723	Main Campus, Borough									100
724	Main Campus, Borough									100
725	Main Campus, Borough									100
726	Main Campus, Borough									162
727	Main Campus, Borough									250
728	221,Nassau	11 spaces	5	1	6	1	5	6	550	250
729	1,1A,2,3,,25,25New,30	993 spaces	477	119	596	99	437	536	550	250
730	14,18,26,Infirmary,Dod,Brown,Booth,Pattor	19 spaces	9	2	11	2	8	10	600	300
731	10,10A	63 spaces	30	8	38	6	28	34	800	400
732	Dillon,Edwards,Witherspoon	55 spaces	26	7	33	6	24	30	850	350
734	106 Alexander	7 spaces	3	1	4	1	3	4		7
735	8,9,71 Univ Pl	50 spaces	24	6	30	5	22	27	300	53
737	Wyman	22 spaces	11	3	14	2	10	12		23
1019	Forrestal Campus & Plasma Lab		100	30	130	25	75	100		300
	Off-campus housing (20%)								900	
	Subtotal, Undergraduate Students								4,550	
	Graduate Students								1,500	
	TOTAL	4730							6,050	5,000
Princeton Theological Seminary										
	Most parking is for students; use 1/2 the Princeton U. trip rate									
	Trips / space: In Out									
	AM 0.24 0.06									
	PM 0.05 0.22									
736	North of Mercer St	125 spaces	30	8	38	6	28	34		75
740	South of Mercer St	438 spaces	105	26	131	22	96	118	590	125
	Off-campus housing (20%)								150	
	TOTAL								740	
Westminster Choir College										
	Trips / space: In Out									
	AM 0.48 0.12									
	PM 0.10 0.44									
717	Total Spaces	300 spaces	144	36	180	30	132	162	340	100
	Off-campus housing (20%)								90	
	TOTAL								430	
Mercer County College										
	Trips / space: In Out									
	AM 0.48 0.12									
	PM 0.10 0.44									
162	Total Spaces	2000 spaces	960	240	1200	200	880	1080		500
Municipal Facilites:										
109	West Windsor Municipal Complex		120	30	150	45	105	150		50
109	Mercer County Library		40	10	50	23	53	75		20
741	Princeton Borough Municipal Bldg		80	20	100	30	70	100		40
504	Princeton Twp Municipal Bldg		80	20	100	30	70	100		40
1098	Plainsboro Twp Municipal Bldg		240	60	300	90	210	300		100

5. TRAFFIC ASSIGNMENT

5.1 Capacity Restraint Algorithm

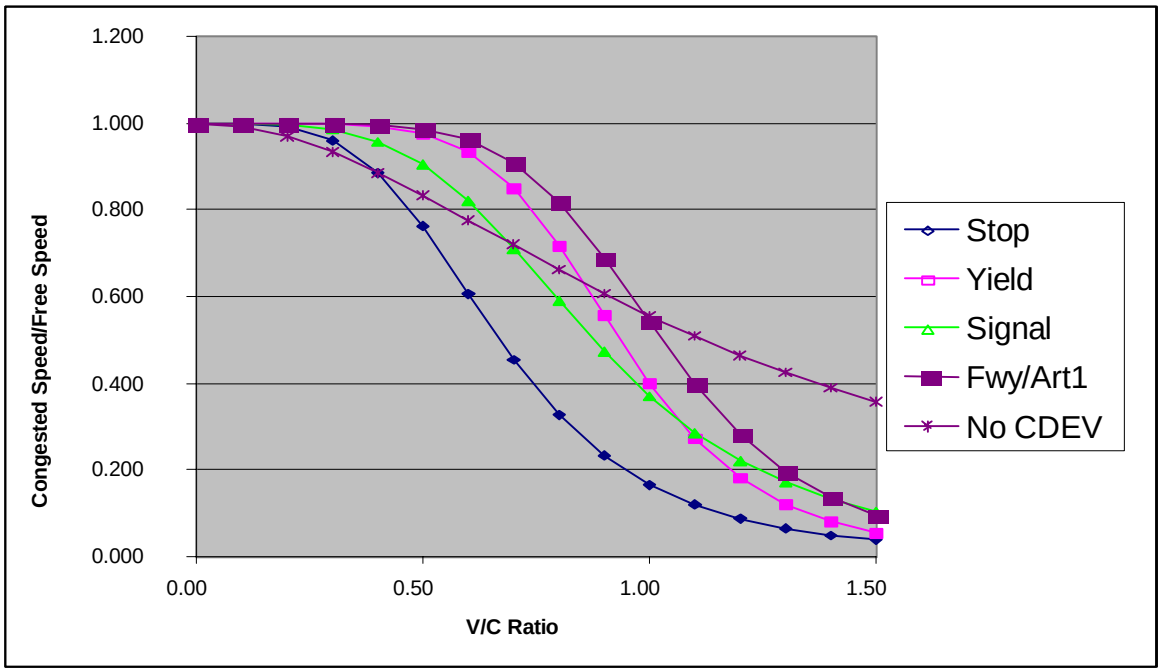
Various traffic assignment methods have been used in traffic models, including: equilibrium, incremental, iterative, stochastic, and combinations of these methods. For the Central Jersey traffic model, an iterative assignment process was used for both the A.M. and P.M. peak hour assignments. It was felt that in a highly congested area, with both tolled and non-tolled route options, an iterative assignment would yield the most stable and reliable results.

Each traffic assignment performs ten iterations of capacity restraint, starting with free-flow link speeds on the first iteration. Ten percent of the trips are assigned on each iteration. After each iteration, the volume assigned to each link is expanded to reflect a 100 percent assignment, and the resulting V/C ratios are computed for each link. Using the volume-delay curves (see below), the link speeds are updated for the next iteration of assignment.

Separate trip tables are used for autos and for trucks, and each is assigned to the appropriate paths. The auto and truck volumes are combined at the end of each iteration, to enable the proper capacity-restraint calculation to take place.

As mentioned above, link speeds are updated after each iteration using formulas known as "volume-delay curves", which describe the relationship between roadway operating speed and congestion level, as measured by a link's volume/capacity ratio. The original volume-delay curves, developed by the Bureau of Public Roads (now FHWA) in the 1960's, have been shown to be unsuitable for use in assigning traffic to highly congested networks. Various urban areas have had success with using variations of the original BPR formula, with different curves used for different facility types.

The volume-delay curves used for the Central Jersey traffic model are depicted in the graph below.



The volume-delay curves reduce speeds for most facilities more sharply than the BPR function as volume exceeds 90% of capacity. The exception is for local roadways with no control device. In a network model, one such link may represent 10 or 20 actual links that are not coded, but which still have capacity. Thus, it is appropriate to restrain these links less than other links. Carrying the same logic further, centroid connectors are not restrained at all.

The relationship between V/C ratio and speed is also quite different for freeways and expressways than for other roads, where stopped delay from signals (or other control devices) can be a significant component of congestion-induced speed reduction. Frequently during the assignment process, calculated constrained speeds for links with control devices can drop to extremely low values.

5.2 Adaptable Assignment

The gravity model, and all other destination choice models in current use, presumes that travelers' choice of destinations is a very rational, predictable phenomenon. As an overall theory, such models reflect some of the major influences on destination choice: destination choice is clearly influenced *in general terms* by the number of attractions available to satisfy their needs and how distant those attractions are from their home. However, there are additional factors that influence that choice, most of which cannot be practically measured or even known. Moreover, the list of factors and their relative influence changes daily. Travel behavior is composed of a somewhat predictable element and a completely random component, and a truly accurate model would have as many variables as there are people in the study area.

This reality notwithstanding, travel models are expected to replicate the actual traffic volumes that were counted for some base year on a number of roadways, to some specified degree of accuracy. Experience over many years suggests that models based on purely theoretical constructs, no matter how well crafted and sound, never achieve a level of base year assignment accuracy that public agencies deem satisfactory.

Some type of adjustment to the model is always required. The challenge is to adjust the model in ways that do not alter the basic travel relationships on which it is built. Doing so would render the model useless for forecasting. Many models suffer this fate, because of undue emphasis placed on calibration accuracy, to the exclusion of all other considerations.

In order to address this dilemma, Urbitran has developed a procedure to amend the basic O/D travel patterns just prior to assignment. This amendment consists of relatively minor modifications to the vehicle trip table on a cell-by-cell basis, such that the resulting assignment more closely matches the base year counted volumes. A proprietary procedure has been developed to accomplish this, called *adaptable assignment*. The result is a "delta" trip table, so called because it contains the *differences* between the pre-adjustment and post-adjustment trip tables. This "delta" table is added to model-estimated future-year trip table prior to assignment. Most of the entries in the delta table are small values, but their cumulative effect is to change the theoretical travel patterns to reflect the reality of the traffic counts.

Since the delta trip table can be thought of as a calibration adjustment, it is used to develop the model's forecasts as well. The delta trip table is added to the future modeled trip table, in the

same fashion as for calibration. This procedure has been used in a number of projects with positive results, and has been applied in the Central Jersey traffic model as well.

6. ASSIGNMENT VALIDATION

The following tables present statistics indicating the level of agreement between the base year peak-hour link traffic volumes assigned by the Central Jersey traffic model and the peak-hour traffic counts:

2001 A.M. PEAK HOUR VALIDATION STATISTICS

	Number of Links	Total of Traffic Counts	Total Assigned Volume	Assigned/ Counted Volume Ratio	Percent Root Mean Square Error	FHWA %RMSE Standard	Average Count
Facility Type:							
Freeway	8	36,541	37,079	1.01	3.6	--	4,567.6
Arterial 1	170	296,080	302,770	1.02	17.1	--	1,741.7
Arterial 2	209	142,694	155,641	1.09	34.7	--	682.8
Collector 1	120	54,751	59,371	1.08	32.8	--	456.3
Collector 2	231	65,195	67,675	1.04	55.5	--	282.2
Counted Volume Range:							
4000-9999	12	62,217	61,645	0.99	4.5	13-15	5,184.8
1000-3999	152	290,507	289,156	1.00	17.3	15-27	1,911.2
500 - 999	241	165,681	176,787	1.07	31.1	27-36	687.5
250 - 499	189	71,724	80,901	1.13	50.4	36-48	379.5

2001 P.M. PEAK HOUR VALIDATION STATISTICS

	Number of Links	Total of Traffic Counts	Total Assigned Volume	Assigned/ Counted Volume Ratio	Percent Root Mean Square Error	FHWA %RMSE Standard	Average Count
Facility Type:							
Freeway	8	39,045	37,323	0.96	7.8	--	4,880.6
Arterial 1	171	292,108	287,121	0.98	19.5	--	1,708.2
Arterial 2	212	148,242	155,959	1.05	40.2	--	699.3
Collector 1	122	55,881	58,345	1.04	24.8	--	458.0
Collector 2	231	66,408	74,038	1.11	91.3	--	287.5
Counted Volume Range:							
4000-9999	8	47,919	45,147	0.94	6.6	13-15	5,989.9
1000-3999	155	300,517	287,624	0.96	20.0	15-27	1,938.8
500 - 999	248	174,949	180,459	1.03	37.8	27-36	705.4
250 - 499	202	76,401	85,815	1.12	51.1	36-48	378.2

These tables show that, in total, the assigned traffic volumes are very close to the counts. The percent errors for individual links tend to increase as one moves from higher-type facilities to lower-type facilities and from higher-volume roadways to lower-volume roadways. The tables show the FHWA guidelines for Percent Root Mean Square Error for links within various

volume ranges (assuming that one-way peak-hour volume is about 10 percent of one-way 24-hour volume, or 5 percent of two-way 24-hour volume). As shown, the Central Jersey traffic model produces statistics that are in general agreement (and in some cases better) than the FHWA standards.

The overall coefficient of variation ("r-squared") between the assigned volumes and the counts is 0.966 for the A.M. peak hour and 0.946 for the P.M. peak hour. These are very high rates of correlation.

PART B: Future-Year Assumptions

1. FUTURE LAND USE

The study area has experienced rapid population and employment growth over the last two decades and there is good reason to anticipate that this growth will continue. One of the significant factors that will continue to propel this trend is the availability of vacant land with appropriate zoning and with planning approvals already in place. Most large (typically more than 20 acres) non-residential properties in the study area have some form of General Development Plan (GDP) approval, site plan approval, or are actively involved in obtaining the necessary approvals.

The growth potential for the study area was estimated primarily based on a property-by-property inventory of potential building yield. For Princeton Township, Princeton Borough, and West Windsor, such an inventory has been maintained on a continuing basis in recent years. Similar data were available from Plainsboro Township in the form of the Township's Master Plan and the Princeton Forrestal Center Master Plan (described in Part A). In South Brunswick, the basis for growth estimates was population and employment forecasts prepared by North Jersey Transportation Planning Authority and tabulated by the Penns Neck EIS study.

Future development is categorized into two growth types:

"Committed development" is that for which the developer is known, the property has an approval in place, or is actively pursuing approvals and they can be assumed to be forthcoming. As a starting point, for these properties it can be assumed that within a 20- to 30-year time frame, the project will be built.

"Uncommitted development" does not have approvals in place and often does not have a known, active developer. The municipality may be resisting development of the property, or plans for the property have not been determined. Development within the 20- to 30-year time frame is less defined but still probable.

No specific time frame is attached to the Committed and Uncommitted totals; instead they reflect known development conditions that could potentially occur. Committed development is likely to occur within an approximate 20-year time frame, because the developments that comprise it have approvals in place and are actively being marketed. The Uncommitted development could take longer – or it could happen more quickly because of development and marketing conditions. In either event, the combination of existing, Committed, and Uncommitted development represents close to a full-build land use condition. Underdeveloped properties and small vacant properties are likely not reflected in the databases and therefore are missing from what would otherwise be a full-build condition. In South Brunswick, specific property details were not defined, so all development was classified as "Uncommitted".

The following growth totals have been developed for the study area from the land use inventories.

Table 1

ANTICIPATED MUNICIPAL GROWTH POTENTIALS

	2001	Committed Growth	Uncommitted Growth	Total	Change
HOUSEHOLDS:					
Plainsboro Township	9,438	455	--	9,893	+5%
Princeton Borough	3,465	37	--	3,502	+1%
Princeton Township	6,018	83	5	6,106	+1%
South Brunswick Township	13,981		4,108	18,089	+29%
West Windsor Township	7,443	2,838	707	10,988	+48%
STUDY AREA TOTAL	40,345	3,413	4,820	48,578	+20%
POPULATION:					
Plainsboro Township	21,865	1,205	--	23,070	+6%
Princeton Borough	15,054	83	--	15,137	+1%
Princeton Township	16,947	186	10	17,143	+1%
South Brunswick Township	38,214		12,972	51,186	+34%
West Windsor Township	22,911	5,949	1,483	30,343	+32%
STUDY AREA TOTAL	114,991	7,423	14,465	136,879	+19%
EMPLOYMENT:					
Plainsboro Township	27,266	22,174	650	50,090	+84%
Princeton Borough	5,561	205	--	5,766	+4%
Princeton Township	5,854	1,180	649	7,683	+31%
South Brunswick Township	31,121		19,927	51,048	+64%
West Windsor Township	18,991	22,646	20,242	61,879	+226%
STUDY AREA TOTAL	88,793	46,205	41,648	176,468	+99%

Population and household growth in the five-town region may be relatively modest. Altogether, households could potentially increase by as much as 20 percent, with the highest growth concentrated in South Brunswick and West Windsor Townships. Potential population growth would be equivalent, about 19 percent.

By contrast, non-residential development has the potential to double the employment of the five-town region. The overall number of jobs could increase by about 99 percent, from 88,793 in 2001, to potentially 176,468 with both Committed and Uncommitted growth. About one half of the area's job growth could occur in West Windsor Township. There is sufficient zoned land available in the Township that employment is likely to more than triple there.

Growth Analysis

The above discussion describes the potential growth that could occur in the five-town local study area without reference to timing. For a transportation study for which the purpose is to evaluate transportation needs at a certain time, however, it is important to evaluate the rate at which this potential growth will actually occur. In the four-town portion of the study area that was analyzed by the Penns Neck EIS project (Plainsboro, Princeton Borough, Princeton Township, and West Windsor), projections by the regional planning agencies (North Jersey Transportation Planning Authority (NJTPA) and Delaware Valley Regional Planning Commission (DVRPC)) were replaced by the above land use analysis and a growth absorption analysis described below. In South Brunswick, the growth projections prepared by NJTPA were relied upon for population, household, and employment growth.

The following discussion relates to the four-town study area that was analyzed for the Penns Neck EIS:

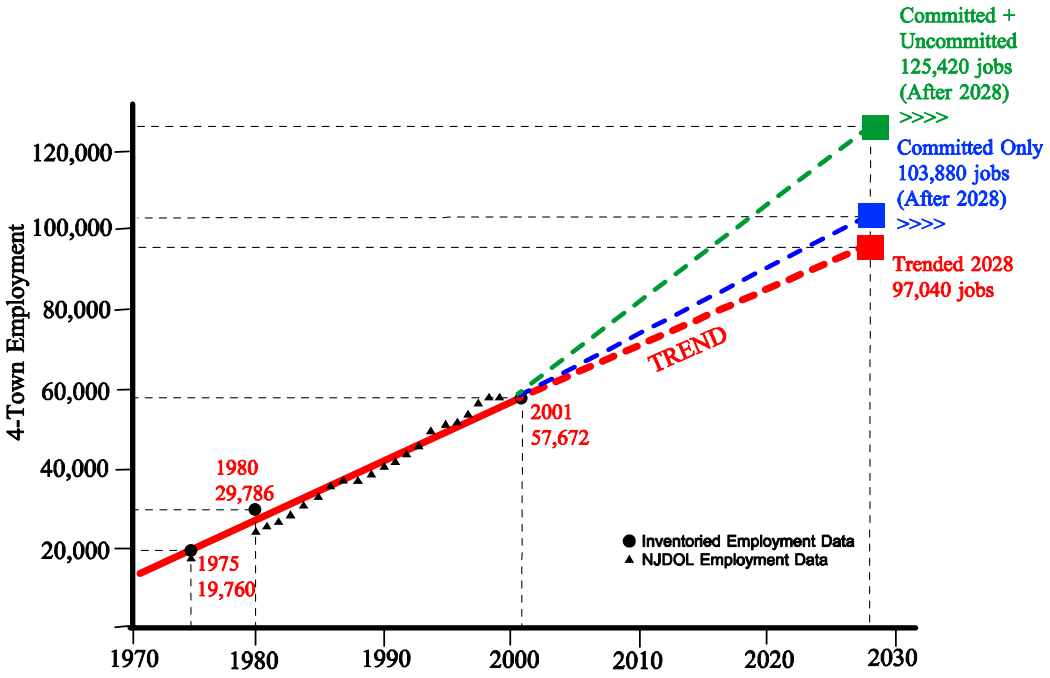
The pace of job growth in the US Route 1 corridor has historically been fast due to the influence of Princeton University and the "Princeton Zip Code" phenomenon. In 1975 there were 19,760 jobs in the four-town area[1], and that total grew quickly to 29,786 jobs by 1980[2]. As evidenced by NJDOL employment estimates in the two decades since 1980, employment in the four-municipality study area has grown steadily and consistently. Currently (2001), there are 57,672 jobs in the four-town area, a three-fold increase in the 26 years since 1975. This trend is illustrated below in Figure 1.

By extrapolating growth on a straight-line basis to the year 2028, it can be expected that there will be about 97,000 jobs in the study area, an increase of about 39,400 jobs or 68 percent from 2001. This trended-growth in jobs is similar to what would occur if the Committed development described above were to occur by 2028. The Committed growth total of 46,200 jobs is - an indication that there is ample developable land to support continuation of the historic trend.

By contrast, adding in the Uncommitted development would produce an additional 21,500 jobs in the area. Figure 1 shows that the combination of Committed and Uncommitted growth is substantially higher than would be achieved by the simple trend line.

[1] I-95 / I-695 Environmental Studies, Economic Impacts Technical Support Document, New Jersey Department of Transportation, 1978.

Figure 1
STUDY AREA JOB GROWTH
(Plainsboro, Princeton Borough, Princeton Township, West Windsor)



The experience in the US Route 1 corridor has been that development is affected by economic and market conditions, and that there have been lengthy periods of sluggishness offset by other periods of fast growth. It is reasonable to anticipate that on an overall basis, the next 27 years (2001 to 2028), will be similar to the past 26 years (1975 to 2001). Therefore it is suggested that the trended-growth level is a reasonable estimate of future employment growth in the four-town study area.

Because the composite of Committed and Uncommitted growth results in a spread of development across the entire four-town area, it is also suggested that the sum of Committed and Uncommitted growth be allocated to the trend total. This will result in some level of development on major sites that have been designated as Uncommitted (i.e. Wyeth / Cyanamid) and that would not show any development activity if Uncommitted growth were ignored. The following table shows the resulting job growth that will occur if Committed and Uncommitted development are allocated together to the trended total. Also indicated are employment levels for the intermediate years (2008 and 2018) assuming a straight-line interpolation

[2] Route 1 Corridor Transportation Study, Technical Report, New Jersey Department of Transportation, 1986.

Table 2
STUDY AREA JOB GROWTH
(Plainsboro, Princeton Borough, Princeton Township, West Windsor)

	2008	2018	2028
Portion of Development	15%	37%	58%
Committed Growth	6,962	16,907	26,852
Uncommitted Growth	3,246	7,882	12,518
Total Growth	10,207	24,789	39,370
Total Employment	67,879	82,461	97,042
Change from 2001	+18%	+43%	+68%

This allocation process estimates that about 58 percent of potential Committed and Uncommitted growth is likely to occur by 2028. For example, of the 7.6 million square feet of office remaining to be developed at Princeton Forestall Center, about 4.4 million would be complete by 2028 according to this formula. At Sarnoff, about 1.3 million of the 2.2 million total square feet would be complete by 2028. And at Wyeth (Cyanamid) about 2.6 million of the 4.4 million square foot total would be complete by 2028. Overall, it is estimated that employment will increase by about 68% from 2001 to 2028 in the four-town study area. The remaining 28,400 jobs identified by the Committed and Uncommitted growth, equivalent to an additional 49% growth, will occur sometime after 2028.

With respect to population and household growth, it is clear that the rate of job growth described above (68%) will far exceed the total Committed and Uncommitted population growth of 12% (see Table 1). Consequently, the available labor force within the four-town study area will be insufficient to supply even a part of the new job demand. Therefore, it is suggested that the pressures of high job growth and limited labor force will pressure the housing market within the study area. As a result, it is estimated that all the Committed and Uncommitted population and household development will occur by 2028.

The resulting estimated population and job growth for the four-town study area is summarized in Table 3. Over the 27-year forecast period, West Windsor will surpass Plainsboro as having the highest employment of the four towns. West Windsor employment is expected to increase from 18,991 jobs in 2001 to about 43,900 jobs in 2028, an increase of 131 percent. During the same period, Plainsboro's employment will increase from 27,266 to about 40,530 jobs, or 49 percent.

West Windsor will also gain the highest population growth, increasing from 22,911 to about 30,340 persons from 2001 to 2028. This is an increase of approximately 32 percent. Plainsboro, Princeton Township, and Princeton Borough will experience considerably less population growth; total population in those three towns is expected to increase from 53,866 to about 55,350 persons, an increase of approximately 3 percent.

Table 3
STUDY AREA POPULATION AND EMPLOYMENT GROWTH
(Plainsboro, Princeton Borough, Princeton Township, West Windsor)

	2001	2028
Households	26,364	30,489
Change from 2001		+16%
Population	76,777	85,693
Change from 2001		+12%
Employment	57,672	97,042
Change from 2001		+68%

In Table 4, the same household, population, and job growth is shown broken down by town. As was discussed above, South Brunswick totals were derived from NJTPA projections in a separate method.

Table 4
MUNICIPAL POPULATION AND EMPLOYMENT GROWTH

	2001	2028
HOUSEHOLDS:		
Plainsboro Township	9,438	9,893
Princeton Borough	3,465	3,502
Princeton Township	6,018	6,106
South Brunswick Township	13,981	18,089
West Windsor Township	7,443	10,988
STUDY AREA TOTAL	40,345	48,578
POPULATION:		
Plainsboro Township	21,865	23,070
Princeton Borough	15,054	15,137
Princeton Township	16,947	17,143
South Brunswick Township	38,214	51,186
West Windsor Township	22,911	30,343
STUDY AREA TOTAL	114,991	136,879
EMPLOYMENT:		
Plainsboro Township	27,266	40,530
Princeton Borough	5,561	5,680
Princeton Township	5,854	6,917
South Brunswick Township	31,121	51,048
West Windsor Township	18,991	43,915
STUDY AREA TOTAL	88,793	148,090

2. FUTURE (2028) NO-ACTION HIGHWAY NETWORK

Following the same procedure used for the Penns Neck EIS, only planned highway improvements with approved funding were included in the "No-Action" network. The funded improvements in the modeled area are as follows (note that some projects have already been implemented since 2001):

- Scudders Mill Road/Dey Road Intersection Improvements (Plainsboro) – Widen intersection approaches to provide additional turning lanes, as follows: Dedicated left, thru, and right turning lanes on Dey Road SB approach; Double left, double thru, and one right turning lane on Scudders Mill Road EB approach; Dedicated left, and thru-right lanes on Old Plainsboro Road approach; one lane thru and no auxiliary lanes on Dey Road NB approach.
- US Route 1/US-130/NJ-171 (Georges Road) Interchange (North Brunswick) – Added to network as per NJDOT plans.
- US-130/CR-539/685 Intersection (Cranbury) – Added signalization to replace existing traffic circle.
- US-130/Adams Lane Intersection (North Brunswick) – Added jughandles for turning movements from US-130.
- US-130/Renaissance Boulevard Intersection (North Brunswick) – Added Renaissance Boulevard west of US-130. Right-in, right-out access only from/to southbound US-130. No signal.
- CR-522 from Kingston Lane to US-130 (South Brunswick) – Added new CR-522 alignment as a four-lane, Type 2 Arterial. Signal coded at CR-522/Georges Road intersection. Tie into existing signal at US-130 and Fresh Ponds Road.
- CR-612 (Forsgate Drive)/Gatzmer Avenue/Perrineville Road Intersection (Jamesburg) – Added one left turn lane in each direction on CR-612.
- CR-610/Fresh Ponds Road Intersection (South Brunswick) – Added one left turn lane to each intersection approach.
- Penns Neck Bypass (West Windsor) – Added as a two-lane, Type 2 Arterial starting at CR-571 just west of the Northeast Corridor rail line and ending at CR-571 (Washington Road) just east of the Delaware and Raritan Canal, with an grade-separated interchange with US Route 1 at the location of the current (signalized) intersection with Harrison Street. The US Route 1/Washington Road intersection converted to right-in, right-out access from/to US Route 1 in both directions. US Route 1 (Signalized) /Fisher Road intersection removed. Added right-in/right-out access for Sarnoff property from/to northbound US Route 1.

PART C: Model Outputs

1.0 Highway Capacity Software 2000 Analysis of Intersection Levels of Service

Using HCS 2000 software, level of service and capacity analyses were conducted at several key locations, for both AM and PM peak periods, for each of the following four scenarios:

- 2001 Existing
- 2028 No build
- 2028 Build Route 92
- 2028 Widen Route 1 to 6 Lanes and Remove Signals

Traffic volumes for the 2001 Existing scenario were taken from turning movement counts gathered for model development. The corresponding model runs generated volumes for the future scenarios. Urbitran Associates inventoried signal timings and lane configurations for the intersections studied. The report from each HCS analysis follows.

1.1 2001 Existing – AM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/16/02
Period: AM
Project ID: Rt 92 Model
E/W St: Cozzens Rd.

Inter.: Cozzens Ln. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	3	0	0	3	0
LGConfig	L	TR		L	TR			T			TR	
Volume	275	414	39	523	330	408		2724			2838	343
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	11.0	35.0					87.0			
Yellow	3.0	4.0					6.0			
All Red	0.0	2.0					2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	131	1787	2.34	0.07	693.8	F		
TR	433	1857	1.16	0.23	153.0	F	357.5	F
Westbound								
L	131	1787	4.44	0.07	1632	F		
TR	396	1699	2.07	0.23	548.0	F	997.9	F
Northbound								
T	2786	4803	1.09	0.58	77.3	E	77.3	E
Southbound								
TR	2855	4922	1.24	0.58	141.7	F	141.7	F

Intersection Delay = 276.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/17/02
Period: AM
Project ID: Rt 92 Model
E/W St: Sandhill Rd.

Inter.: Sandhill Rd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	352	234	235	373	125	92		1338			1887	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left			
Thru		P			Thru	P		
Right	P	P			Right			
Peds					Peds			
WB Left	A				SB Left			
Thru		P			Thru	P		
Right	P	P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	9.0	34.0			95.0			
Yellow	3.0	3.0			6.0			
All Red	3.0	2.0			2.0			

Cycle Length: 157.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	102	1787	3.83	0.06	1372	F		
T	407	1881	0.64	0.22	63.4	E	620.3	F
R	499	1599	0.52	0.31	48.3	D		
Westbound								
L	102	1787	4.06	0.06	1473	F		
T	403	1863	0.34	0.22	54.4	D	949.2	F
R	494	1583	0.21	0.31	40.7	D		
Northbound								
T	1933	3195	0.77	0.61	25.9	C	25.9	C
Southbound								
T	2100	3471	1.00	0.61	50.2	D	50.2	D

Intersection Delay = 258.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/17/02
Period: AM
Project ID: Rt 92 Model
E/W St: NEW RD.

Inter.: NEW RD. & RT 1
Area Type: All other areas
Jurisd: MIDDLESEX COUNTY
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	129	252	177	12	266	84		1175			2370	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	23.0					90.0			
Yellow	3.0	4.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	89	1787	1.61	0.05	385.4	F		
T	309	1881	0.91	0.16	89.4	F	144.5	F
R	411	1599	0.48	0.26	48.0	D		
Westbound								
L	89	1787	0.15	0.05	64.4	E		
T	309	1881	0.96	0.16	99.6	F	85.2	F
R	407	1583	0.23	0.26	42.3	D		
Northbound								
T	2036	3167	0.64	0.64	16.8	B	16.8	B
Southbound								
T	2231	3471	1.18	0.64	111.1	F	111.1	F

Intersection Delay = 88.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/17/02
Period: AM
Project ID: Rt 92 Model
E/W St: RT 522 Promenade Rd.

Inter.: RT 522 Promenade Blvd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	318	256	60	778	438	97		972			2181	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	5.0	28.0					94.0			
Yellow	3.0	3.0					6.0			
All Red	2.0	2.0					2.0			

Cycle Length: 145.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	58	1671	6.09	0.03	2395	F		
T	363	1881	0.78	0.19	71.0	E	1233	F
R	415	1583	0.16	0.26	42.1	D		
Westbound								
L	62	1787	9.97	0.03	4137	F		
T	363	1881	1.34	0.19	229.7	F	2204	F
R	415	1583	0.26	0.26	43.9	D		
Northbound								
T	2035	3139	0.53	0.65	14.7	B	14.7	B
Southbound								
T	2250	3471	1.08	0.65	69.0	E	69.0	E

Intersection Delay = 687.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/17/02
Period: AM
Project ID: Rt 92 Model
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	2	0	0	2	0
LGConfig	L	TR		L	T	R		T			T	
Volume	376	399	53	187	390	95		1405			2519	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A	P			SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	21.0					55.0			
Yellow	3.0	4.0					6.0			
All Red	2.0	2.0					1.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	179	1752	2.34	0.32	649.6	F		
TR	388	1848	1.29	0.21	189.7	F	398.7	F
Westbound								
L	181	1770	1.15	0.32	144.4	F		
T	395	1881	1.10	0.21	113.3	F	111.0	F
R	326	1553	0.33	0.21	36.1	D		
Northbound								
T	1789	3252	0.87	0.55	25.7	C	25.7	C
Southbound								
T	1928	3505	1.45	0.55	228.8	F	228.8	F

Intersection Delay = 187.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Rt 522 (Promenade)

Inter.: Rt 27 & RT522 Promeade
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	1	1	1	1	1	1	1
LGConfig		LT	R	L	T	R	L	T	R	L	T	R
Volume	25	25	25	208	25	80	25	237	308	154	480	25
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	243	952	0.23	0.26	28.7	C	28.1	C
R	236	923	0.12	0.26	26.7	C		
Westbound								
L	340	1329	0.68	0.26	40.6	D		
T	278	1086	0.10	0.26	26.3	C	36.2	D
R	409	1599	0.22	0.26	27.6	C		
Northbound								
L	69	1031	0.41	0.07	44.2	D		
T	1025	1845	0.26	0.56	11.0	B	10.8	B
R	962	1468	0.36	0.66	8.0	A		
Southbound								
L	119	1787	1.44	0.07	279.8	F		
T	1045	1881	0.51	0.56	14.2	B	75.9	E
R	605	923	0.05	0.66	5.7	A		

Intersection Delay = 43.0 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig					TR			TR			LT	
Volume				149	10		397	30		55	627	
Lane Width				12.0			12.0				12.0	
RTOR Vol					0			0				

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left					SB	Left	P			
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
TR	442	1767	0.40	0.25	21.4	C	21.4	C
Northbound								
TR	1128	1736	0.42	0.65	6.2	A	6.2	A
Southbound								
LT	1139	1753	0.67	0.65	9.6	A	9.6	A

Intersection Delay = 9.9 (sec/veh) Intersection LOS = A

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 12/17/02
Period: AM
Project ID: Rt 92 Model
E/W St: Rt 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2001 Existing

N/S St: Laurel Ave

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	536	105	150	657	10	236	206	23	10	196	74
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	94	188	0.23	0.50	17.1	B		
TR	844	1688	1.49	0.50	246.0	F	242.0	F
Westbound								
L	94	188	2.96	0.50	928.9	F		
TR	829	1658	1.51	0.50	256.9	F	378.9	F
Northbound								
LTR	330	880	2.22	0.38	584.3	F	584.3	F
Southbound								
LTR	619	1650	0.76	0.38	30.3	C	30.3	C

Intersection Delay = 332.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	0	0	0	1	1	0	0	1	0
LGConfig		T	R				L	T			T	
Volume		92	1252				677	505			67	
Lane Width		12.0	12.0				12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	P			
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		36.0					44.0			
Yellow		4.0					4.0			
All Red		1.0					1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1430	3574	0.07	0.40	16.8	B	542.0	F
R	627	1568	2.22	0.40	580.5	F		
Westbound								
Northbound								
L	652	1333	1.15	0.49	108.7	F		
T	911	1863	0.62	0.49	19.9	B	70.8	E
Southbound								
T	920	1881	0.08	0.49	12.4	B	12.4	B

Intersection Delay = 313.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/16/02
Period: AM
Project ID: Rt 92 Model
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Exsting

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	222		82				258	598			93	52
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	275	1787	0.90	0.15	60.4	E		
							52.0	D
R	239	1553	0.38	0.15	29.3	C		
Westbound								
Northbound								
L	871	1286	0.33	0.68	5.4	A		
T	1273	1881	0.52	0.68	6.8	A	6.4	A
Southbound								
T	1273	1881	0.08	0.68	3.7	A	3.7	A
R	1082	1599	0.05	0.68	3.6	A		

Intersection Delay = 16.7 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	1	1	0	1	2	0	0	2	0
LGConfig	L		R	L	T		L	T			TR	
Volume	225		92	588	128		73	1090			1305	42
Lane Width	12.0		12.0	12.0	12.0		12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left	P				SB	Left				
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	13.0						74.0			
Yellow	4.0						5.0			
All Red	2.0						2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	143	1103	1.75	0.13	407.4	F		
							303.5	F
R	206	1583	0.50	0.13	48.7	D		
Westbound								
L	223	1719	2.93	0.13	923.3	F		
T	242	1863	0.59	0.13	51.0	D	767.5	F
Northbound								
L	199	269	0.41	0.74	10.9	B		
T	2283	3085	0.53	0.74	6.5	A	6.7	A
Southbound								
TR	2583	3490	0.58	0.74	6.9	A	6.9	A

Intersection Delay = 187.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Rt32 Forsgate Dr

Inter.: RT 32 Forsgate Dr & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2001 Existing

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	0	3	0	1	1	1	1	2	0
LGConfig	L	TR			TR		L	T	R	L	TR	
Volume	332	732	99		1795	244	10	371	225	144	1124	80
Lane Width	12.0	12.0			12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	65.0					10.0	28.0		
Yellow	3.0	6.0					4.0	5.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 135.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	127	1719	2.91	0.07	941.1	F		
TR	2113	4075	0.44	0.52	20.9	C	283.7	F
Westbound								
TR	2513	4846	0.90	0.52	35.2	D	35.2	D
Northbound								
L	180	1556	0.06	0.32	34.5	C		
T	421	1776	0.98	0.24	90.0	F	93.8	F
R	255	1077	0.98	0.24	102.8	F		
Southbound								
L	166	1388	0.96	0.32	98.4	F		
TR	808	3408	1.66	0.24	352.2	F	325.1	F

Intersection Delay = 173.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/16/02
Period: AM
Project ID: Rt 92 Model
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2001 Exsiting

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	143		153				10	830			723	328
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	278	1668	1.18	0.17	163.1	F	163.1	F
Westbound								
Northbound								
LT	1326	1779	0.70	0.76	9.2	A	9.2	A
Southbound								
TR	1193	1836	0.98	0.65	41.5	D	41.5	D

Intersection Delay = 45.6 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	184	176	321	103	34	191	471	1610	10	120	1197	90
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
WB Left	A				SB	Left	A			
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	7.0					7.0	40.0		
Yellow	3.0	4.0					3.0	5.0		
All Red	0.0	1.0					0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	177	1752	1.15	0.10	150.1	F		
T	167	1881	1.17	0.09	160.0	F	429.8	F
R	142	1599	2.51	0.09	737.8	F		
Westbound								
L	181	1787	0.63	0.10	40.9	D		
T	165	1863	0.23	0.09	36.7	D	197.3	F
R	138	1553	1.54	0.09	310.2	F		
Northbound								
L	158	1787	3.31	0.09	1091	F		
TR	1523	3008	1.18	0.51	108.4	F	329.8	F
Southbound								
L	151	1703	0.88	0.09	76.3	E		
TR	1740	3437	0.82	0.51	21.0	C	25.7	C

Intersection Delay = 240.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			TR	R
Volume	215		10				10	139			284	509
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	698	1719	0.34	0.41	14.4	B		
							14.3	B
R	650	1599	0.02	0.41	11.4	B		
Westbound								
Northbound								
L	358	881	0.03	0.41	11.6	B		
T	715	1759	0.22	0.41	13.1	B	13.0	B
Southbound								
TR	750	1845	0.42	0.41	15.3	B	27.6	C
R	637	1568	0.89	0.41	34.5	C		

Intersection Delay = 23.2 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Schalk's
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Schalk's Crossing

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	1	2	2	1	2	2	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	85	331	29	10	1112	559	398	198	10	154	110	84
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A				SB	Left		P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	33.0					10.0	10.0		
Yellow	4.0	4.0					4.0	4.0		
All Red	0.0	2.0					1.5	1.5		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	130	1736	0.72	0.08	54.1	D		
TR	2069	5016	0.19	0.41	15.2	B	22.6	C
Westbound								
L	260	3467	0.04	0.08	34.4	C		
T	1474	3574	0.84	0.41	27.0	C	33.9	C
R	653	1583	0.95	0.41	47.8	D		
Northbound								
L	433	3467	1.02	0.13	83.6	F		
T	447	3574	0.49	0.13	36.5	D	67.4	E
R	200	1599	0.05	0.13	31.4	C		
Southbound								
L	425	3400	0.40	0.13	35.1	D		
TR	414	3314	0.52	0.13	37.4	D	36.3	D

Intersection Delay = 39.1 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: AM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	51	398	39	10	743	30	499	79	10	10	213	435
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	15.0	31.0					20.0			
Yellow	3.0	5.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	453	1719	0.13	0.61	8.2	A		
TR	1347	3477	0.36	0.39	18.2	B	17.1	B
Westbound								
L	625	1787	0.02	0.61	6.5	A		
TR	1377	3554	0.62	0.39	21.9	C	21.7	C
Northbound								
LTR	163	653	4.01	0.25	1397	F	1397	F
Southbound								
LT	463	1850	0.54	0.25	30.4	C	105.9	F
R	400	1599	1.21	0.25	144.7	F		

Intersection Delay = 364.1 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

1.2 2001 Existing – PM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/16/02
Period: PM
Project ID: Rt 92 Model
E/W St: Cozzens Rd.

Inter.: Cozzens Ln. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	3	0	0	3	0
LGConfig	L	TR		L	TR			T			TR	
Volume	98	615	17	134	156	526		2180			3764	854
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	11.0	35.0					87.0			
Yellow	3.0	4.0					6.0			
All Red	0.0	2.0					2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	128	1752	0.85	0.07	107.8	F		
TR	433	1855	1.62	0.23	347.5	F	315.3	F
Westbound								
L	131	1787	1.14	0.07	189.8	F		
TR	368	1579	2.06	0.23	542.5	F	484.5	F
Northbound								
T	2865	4940	0.85	0.58	29.2	C	29.2	C
Southbound								
TR	2873	4953	1.79	0.58	386.6	F	386.6	F

Intersection Delay = 296.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/17/02
Period: PM
Project ID: Rt 92 Model
E/W St: Sandhill Rd.

Inter.: Sandhill Rd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	112	211	257	33	357	34		1626			923	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	9.0	34.0					95.0			
Yellow	3.0	3.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 157.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	102	1787	1.22	0.06	232.1	F		
T	407	1881	0.57	0.22	60.8	E	89.0	F
R	499	1599	0.57	0.31	50.0	D		
Westbound								
L	102	1787	0.36	0.06	73.4	E		
T	407	1881	0.98	0.22	100.0	F	92.9	F
R	494	1583	0.08	0.31	38.4	D		
Northbound								
T	2061	3406	0.88	0.61	31.7	C	31.7	C
Southbound								
T	2004	3312	0.51	0.61	18.7	B	18.7	B

Intersection Delay = 45.0 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/17/02
Period: PM
Project ID: Rt 92 Model
E/W St: NEW RD.

Inter.: NEW RD. & RT 1
Area Type: All other areas
Jurisd: MIDDLESEX COUNTY
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	32	205	180	10	369	33		1989			915	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	23.0					90.0			
Yellow	3.0	4.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	87	1736	0.41	0.05	67.7	E		
T	306	1863	0.75	0.16	70.9	E	60.9	E
R	411	1599	0.49	0.26	48.2	D		
Westbound								
L	89	1787	0.12	0.05	64.2	E		
T	309	1881	1.33	0.16	226.3	F	207.4	F
R	407	1583	0.09	0.26	40.0	D		
Northbound								
T	2210	3438	1.00	0.64	44.1	D	44.1	D
Southbound								
T	2129	3312	0.48	0.64	13.7	B	13.7	B

Intersection Delay = 56.6 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/17/02
Period: PM
Project ID: Rt 92 Model
E/W St: RT 522 Promenade Rd.

Inter.: RT 522 Promenade Blvd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	161	458	23	346	164	142		2097			879	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	5.0	28.0					94.0			
Yellow	3.0	3.0					6.0			
All Red	2.0	2.0					2.0			

Cycle Length: 145.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	62	1787	2.89	0.03	961.5	F		
T	363	1881	1.40	0.19	255.4	F	424.6	F
R	419	1599	0.06	0.26	40.4	D		
Westbound								
L	59	1703	6.51	0.03	2584	F		
T	363	1881	0.50	0.19	57.1	E	1395	F
R	415	1583	0.38	0.26	46.5	D		
Northbound								
T	2229	3438	1.05	0.65	57.7	E	57.7	E
Southbound								
T	2147	3312	0.46	0.65	13.4	B	13.4	B

Intersection Delay = 307.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	2	0	0	2	0
LGConfig	L	TR		L	T	R		T			T	
Volume	335	393	31	283	422	231		2023			849	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A	P			SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	21.0					55.0			
Yellow	3.0	4.0					6.0			
All Red	2.0	2.0					1.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	173	1687	2.15	0.32	568.2	F		
TR	383	1822	1.23	0.21	163.8	F	342.2	F
Westbound								
L	177	1736	1.77	0.32	401.9	F		
T	395	1881	1.19	0.21	146.5	F	200.4	F
R	336	1599	0.76	0.21	52.4	D		
Northbound								
T	1909	3471	1.18	0.55	108.2	F	108.2	F
Southbound								
T	1839	3343	0.51	0.55	15.1	B	15.1	B

Intersection Delay = 148.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: RT 522 Promeade

Inter.: Rt 27 & Promeade Blvd (RT522)
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	1	1	1	1	1	1	1
LGConfig		LT	R	L	T	R	L	T	R	L	T	R
Volume	15	15	15	71	15	256	15	422	34	117	79	15
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	273	1069	0.12	0.26	26.7	C	26.4	C
R	258	1009	0.07	0.26	25.9	C		
Westbound								
L	347	1356	0.23	0.26	28.0	C		
T	304	1188	0.06	0.26	25.7	C	36.6	D
R	409	1599	0.69	0.26	39.7	D		
Northbound								
L	75	1128	0.23	0.07	41.3	D		
T	1045	1881	0.45	0.56	13.2	B	13.6	B
R	1048	1599	0.04	0.66	5.5	A		
Southbound								
L	119	1787	1.09	0.07	151.5	F		
T	1035	1863	0.09	0.56	9.5	A	87.8	F
R	661	1009	0.03	0.66	5.5	A		

Intersection Delay = 36.1 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig					TR			TR			LT	
Volume				272	10		223	238		10	168	
Lane Width				12.0			12.0				12.0	
RTOR Vol					0			0				

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left					SB	Left	P			
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
TR	447	1787	0.70	0.25	29.3	C	29.3	C
Northbound								
TR	1088	1674	0.47	0.65	6.8	A	6.8	A
Southbound								
LT	1162	1788	0.17	0.65	4.5	A	4.5	A

Intersection Delay = 13.2 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 12/17/02
Period: PM
Project ID: Rt 92 Model
E/W St: Rt 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2001 Existing

N/S St: Laurel Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	463	69	73	392	10	186	189	117	10	283	21
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	144	288	0.15	0.50	13.1	B		
TR	853	1706	1.23	0.50	132.7	F	130.2	F
Westbound								
L	94	188	1.44	0.50	266.5	F		
TR	805	1610	0.94	0.50	38.4	D	73.0	E
Northbound								
LTR	360	961	2.81	0.38	847.7	F	847.7	F
Southbound								
LTR	631	1682	0.85	0.38	36.5	D	36.5	D

Intersection Delay = 308.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	0	0	0	1	1	0	0	1	0
LGConfig		T	R				L	T			T	
Volume		948	552				214	1045			159	
Lane Width		12.0	12.0				12.0	12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru	A	P				Thru	P			
Right	A	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	27.0					41.0			
Yellow	4.0	4.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1072	3574	0.98	0.30	54.8	D	103.8	F
R	466	1553	1.32	0.30	188.1	F		
Westbound								
Northbound								
L	466	1023	0.51	0.46	21.3	C		
T	825	1810	1.41	0.46	215.0	F	182.1	F
Southbound								
T	857	1881	0.21	0.46	15.3	B	15.3	B

Intersection Delay = 132.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/16/02
Period: PM
Project ID: Rt 92 Model
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	68		165				191	141			115	47
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	275	1787	0.28	0.15	26.8	C		
							39.4	D
R	246	1599	0.74	0.15	44.6	D		
Westbound								
Northbound								
L	835	1233	0.25	0.68	4.8	A		
T	1273	1881	0.12	0.68	3.9	A	4.4	A
Southbound								
T	1273	1881	0.10	0.68	3.8	A	3.7	A
R	1072	1583	0.05	0.68	3.6	A		

Intersection Delay = 15.5 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	1	0	1	1	0	0	1	1
LGConfig		LR		L	T		L	T			T	R
Volume	131		160	521	81		10	985			1316	43
Lane Width		12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left	P				SB	Left				
Thru	P					Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	13.0						74.0			
Yellow	4.0						5.0			
All Red	2.0						2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	147	1129	2.20	0.13	606.9	F	606.9	F
Westbound								
L	217	1671	2.67	0.13	807.2	F		
T	240	1845	0.38	0.13	44.2	D	704.6	F
Northbound								
L	223	301	0.05	0.74	3.9	A		
T	1162	1570	0.94	0.74	26.8	C	26.6	C
Southbound								
T	1339	1810	1.09	0.74	66.6	E	64.6	E
R	1171	1583	0.04	0.74	3.6	A		

Intersection Delay = 220.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: RT 32 Forsgate Dr

Inter.: RT 32 Forsgate Dr & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2001 Existing

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	0	3	0	1	1	1	1	2	0
LGConfig	L	TR			TR		L	T	R	L	TR	
Volume	271	1328	32		1330	67	16	400	294	283	821	142
Lane Width	12.0	13.0			12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	65.0					10.0	28.0		
Yellow	3.0	6.0					4.0	5.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 135.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	120	1626	2.51	0.07	765.3	F		
TR	2614	5042	0.58	0.52	23.3	C	146.5	F
Westbound								
TR	2395	4618	0.65	0.52	24.9	C	24.9	C
Northbound								
L	187	1641	0.10	0.32	34.7	C		
T	421	1776	1.05	0.24	110.5	F	98.5	F
R	348	1468	0.94	0.24	85.7	F		
Southbound								
L	194	1719	1.62	0.32	340.0	F		
TR	805	3394	1.33	0.24	208.2	F	238.1	F

Intersection Delay = 128.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/16/02
Period: PM
Project ID: Rt 92 Model
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2001 Existing

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	189		49				10	557			706	163
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	287	1721	0.92	0.17	82.1	F	82.1	F
Westbound								
Northbound								
LT	1383	1860	0.46	0.76	5.6	A	5.6	A
Southbound								
TR	1145	1762	0.84	0.65	23.9	C	23.9	C

Intersection Delay = 25.9 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	330	59	206	87	10	67	15	1210	28	151	1092	157
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	7.0				7.0	40.0		
Yellow	3.0	4.0				3.0	5.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	177	1752	2.07	0.10	537.5	F		
T	165	1863	0.40	0.09	41.1	D	420.3	F
R	142	1599	1.61	0.09	341.8	F		
Westbound								
L	181	1787	0.54	0.10	36.9	D		
T	167	1881	0.07	0.09	33.8	C	42.4	D
R	131	1482	0.56	0.09	51.0	D		
Northbound								
L	157	1770	0.11	0.09	33.4	C		
TR	1536	3034	0.90	0.51	26.1	C	26.2	C
Southbound								
L	152	1719	1.11	0.09	140.0	F		
TR	1688	3334	0.82	0.51	21.1	C	34.0	C

Intersection Delay = 99.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	209		10				10	39			150	203
Lane Width	12.0		12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	726	1787	0.32	0.41	14.1	B		
							14.0	B
R	650	1599	0.02	0.41	11.4	B		
Westbound								
Northbound								
L	303	747	0.04	0.41	11.7	B		
T	750	1845	0.06	0.41	11.7	B	11.7	B
Southbound								
TR	677	1667	0.58	0.41	18.4	B	18.4	B

Intersection Delay = 16.3 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Schalk's
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Schalk's Crossing

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	1	2	2	1	2	2	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	78	1177	255	36	333	193	103	86	42	217	194	32
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A				SB	Left		P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	33.0					10.0	10.0		
Yellow	4.0	4.0					4.0	4.0		
All Red	0.0	2.0					1.5	1.5		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	131	1752	0.66	0.08	48.0	D		
TR	2062	4999	0.77	0.41	23.1	C	24.4	C
Westbound								
L	260	3467	0.15	0.08	34.9	C		
T	1474	3574	0.25	0.41	15.8	B	17.5	B
R	660	1599	0.32	0.41	17.2	B		
Northbound								
L	409	3273	0.28	0.13	33.4	C		
T	438	3505	0.22	0.13	32.6	C	33.3	C
R	200	1599	0.23	0.13	34.3	C		
Southbound								
L	433	3467	0.56	0.13	38.0	D		
TR	437	3493	0.58	0.13	38.5	D	38.2	D

Intersection Delay = 26.0 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/18/02
Period: PM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2001 Existing

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	644	534	258	10	203	100	10	323	10	10	33	356
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	15.0	31.0					20.0			
Yellow	3.0	5.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	696	1787	1.03	0.61	64.1	E		
TR	1317	3399	0.67	0.39	23.0	C	41.4	D
Westbound								
L	464	1787	0.02	0.61	7.9	A		
TR	1317	3398	0.26	0.39	17.1	B	16.8	B
Northbound								
LTR	463	1851	0.82	0.25	43.5	D	43.5	D
Southbound								
LT	418	1671	0.11	0.25	23.7	C	67.2	E
R	400	1599	0.99	0.25	72.5	E		

Intersection Delay = 42.8 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

1.3 2028 No Build – AM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: Cozzens Rd.

Inter.: Cozzens Ln. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	3	0	0	3	0
LGConfig	L	TR		L	TR			T			TR	
Volume	206	517	15	451	351	340		2445			3632	410
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	11.0	35.0					87.0			
Yellow	3.0	4.0					6.0			
All Red	0.0	2.0					2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	132	1805	1.73	0.07	429.7	F		
TR	441	1892	1.34	0.23	225.2	F	282.3	F
Westbound								
L	131	1787	3.82	0.07	1358	F		
TR	403	1725	1.91	0.23	474.3	F	823.5	F
Northbound								
T	2838	4893	0.96	0.58	39.3	D	39.3	D
Southbound								
TR	2854	4921	1.57	0.58	291.5	F	291.5	F

Intersection Delay = 289.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: Sandhill Rd.

Inter.: Sandhill Rd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	143	265	262	293	193	231		1935			2658	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	9.0	34.0					95.0			
Yellow	3.0	3.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 157.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	103	1805	1.54	0.06	361.0	F		
T	407	1881	0.72	0.22	67.7	E	123.6	F
R	499	1599	0.58	0.31	50.3	D		
Westbound								
L	100	1736	3.26	0.06	1116	F		
T	400	1845	0.54	0.22	59.6	E	488.2	F
R	494	1583	0.52	0.31	48.2	D		
Northbound								
T	2023	3343	1.06	0.61	70.1	E	70.1	E
Southbound								
T	2100	3471	1.41	0.61	216.7	F	216.7	F

Intersection Delay = 191.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: NEW RD.

Inter.: NEW RD. & RT 1
Area Type: All other areas
Jurisd: MIDDLESEX COUNTY
Year : 2028 No Build AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	24	365	300	61	229	222		1760			3116	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left				
Thru		P			Thru	P			
Right	P	P			Right				
Peds					Peds				
WB Left	A				SB Left				
Thru		P			Thru	P			
Right	P	P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	7.0	23.0				90.0			
Yellow	3.0	4.0				6.0			
All Red	3.0	2.0				2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	89	1787	0.30	0.05	66.1	E		
T	309	1881	1.31	0.16	221.0	F	147.5	F
R	411	1599	0.81	0.26	64.6	E		
Westbound								
L	89	1787	0.76	0.05	97.5	F		
T	306	1863	0.83	0.16	78.9	E	69.6	E
R	407	1583	0.61	0.26	52.4	D		
Northbound								
T	2149	3343	0.91	0.64	28.7	C	28.7	C
Southbound								
T	2231	3471	1.55	0.64	275.5	F	275.5	F

Intersection Delay = 172.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: RT 522 Promenade Rd.

Inter.: RT 522 Promenade Blvd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	144	337	201	548	549	184		1801			2747	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	5.0	28.0					94.0			
Yellow	3.0	3.0					6.0			
All Red	2.0	2.0					2.0			

Cycle Length: 145.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	62	1787	2.58	0.03	825.9	F		
T	367	1900	1.02	0.19	110.4	F	244.0	F
R	423	1615	0.53	0.26	50.5	D		
Westbound								
L	61	1770	9.98	0.03	4145	F		
T	363	1881	1.68	0.19	376.5	F	1942	F
R	415	1583	0.49	0.26	49.4	D		
Northbound								
T	2187	3374	0.91	0.65	29.5	C	29.5	C
Southbound								
T	2250	3471	1.36	0.65	188.9	F	188.9	F

Intersection Delay = 495.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	2	0	0	2	0
LGConfig	L	TR		L	T	R		T			T	
Volume	407	331	339	227	459	132		2405			3250	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A	P			SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	21.0					55.0			
Yellow	3.0	4.0					6.0			
All Red	2.0	2.0					1.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	177	1736	2.55	0.32	747.1	F		
TR	365	1738	2.04	0.21	517.5	F	604.2	F
Westbound								
L	173	1687	1.46	0.32	266.3	F		
T	387	1845	1.32	0.21	199.7	F	192.2	F
R	323	1538	0.46	0.21	39.1	D		
Northbound								
T	1856	3374	1.44	0.55	223.5	F	223.5	F
Southbound								
T	1909	3471	1.89	0.55	425.7	F	425.7	F

Intersection Delay = 361.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

** Note the WB left turn volume entered as 548 (not 931); HCS would not accept a higher volume and still generate a delay for that lane.

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Rt 522 Promeade

Inter.: Rt 27 & RT522 Promeade
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	1	1	1	1	1	1	1
LGConfig		LT	R	L	T	R	L	T	R	L	T	R
Volume	25	25	25	318	25	202	25	515	211	162	1061	25
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	243	952	0.23	0.26	28.7	C	28.1	C
R	236	923	0.12	0.26	26.7	C		
Westbound								
L	346	1355	1.02	0.26	87.1	F		
T	486	1900	0.06	0.26	25.5	C	64.7	E
R	409	1599	0.55	0.26	34.2	C		
Northbound								
L	69	1031	0.41	0.07	44.2	D		
T	1015	1827	0.56	0.56	15.2	B	13.8	B
R	1028	1568	0.23	0.66	6.8	A		
Southbound								
L	120	1805	1.50	0.07	305.4	F		
T	1025	1845	1.15	0.56	99.1	F	124.0	F
R	605	923	0.05	0.66	5.7	A		

Intersection Delay = 77.3 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig					TR			TR			LT	
Volume				345	10		474	154		140	1252	
Lane Width				12.0			12.0				12.0	
RTOR Vol					0			0				

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left					SB	Left	P			
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
TR	447	1789	0.88	0.25	43.0	D	43.0	D
Northbound								
TR	1156	1779	0.60	0.65	8.4	A	8.4	A
Southbound								
LT	980	1508	1.58	0.65	275.8	F	275.8	F

Intersection Delay = 170.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 11/21/02
Period: AM Peak Hour
Project ID:
E/W St: Route 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 No Build

N/S St: Laurel Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	618	204	109	1377	10	159	301	84	10	345	80
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L				0.50				
TR	862	1723	1.85	0.50	406.6	F		
Westbound								
L	94	188	2.15	0.50	570.6	F		
TR	830	1659	3.15	0.50	989.3	F	959.3	F
Northbound								
LTR	295	786	3.40	0.38	1112	F	1112	F
Southbound								
LTR	622	1658	1.18	0.38	123.2	F	123.2	F

Intersection Delay = (sec/veh) Intersection LOS =

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	1	2	0	1	1	0	1	1	0
LGConfig		T	R	L	TR		L	TR		L	T	
Volume		456	1110	10	1212	550	462	108	10	134	70	
Lane Width		12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A				SB	Left	P			
Thru	A	P				Thru	P			
Right	A	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	27.0					41.0			
Yellow	4.0	4.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1012	3374	0.50	0.30	27.7	C	559.6	F
R	466	1553	2.65	0.30	778.3	F		
Westbound								
L	160	1805	0.07	0.09	37.8	D		
TR	1443	3329	1.36	0.43	190.7	F	189.9	F
Northbound								
L	600	1316	0.86	0.46	36.3	D		
TR	783	1719	0.17	0.46	14.9	B	32.0	C
Southbound								
L	583	1279	0.26	0.46	16.2	B		
T	773	1696	0.10	0.46	14.2	B	15.5	B

Intersection Delay = 299.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	312		27				250	1010			310	96
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	275	1787	1.26	0.15	171.2	F		
							159.5	F
R	246	1599	0.12	0.15	24.7	C		
Westbound								
Northbound								
L	679	1003	0.41	0.68	6.5	A		
T	1273	1881	0.88	0.68	17.4	B	15.2	B
Southbound								
T	1261	1863	0.27	0.68	4.7	A	4.5	A
R	1093	1615	0.10	0.68	3.8	A		

Intersection Delay = 37.5 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	1	1	1	1	2	0	0	2	0
LGConfig	L		R	L	T	R	L	T			TR	
Volume	241		147	909	177	10	55	1797			1823	174
Lane Width	12.0		12.0	12.0	12.0	12.0	12.0	12.0			12.0	
RTOR Vol			0			0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left	P				SB	Left				
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	13.0						74.0			
Yellow	4.0						5.0			
All Red	2.0						2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	99	762	2.71	0.13	839.5	F		
							548.6	F
R	202	1553	0.81	0.13	70.4	E		
Westbound								
L	226	1736	4.47	0.13	1614	F		
T	242	1863	0.81	0.13	67.4	E	1350	F
R	210	1615	0.05	0.13	38.6	D		
Northbound								
L	75	102	0.81	0.74	69.2	E		
T	2207	2983	0.90	0.74	16.9	B	18.5	B
Southbound								
TR	2476	3346	0.90	0.74	15.6	B	15.6	B

Intersection Delay = 329.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: Rt32 Forsgate Dr

Inter.: RT 32 Forsgate Dr & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2002 Existing AM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	0	3	0	1	1	1	1	2	0
LGConfig	L	TR			TR		L	T	R	L	TR	
Volume	427	904	146		2516	229	28	383	181	97	1351	47
Lane Width	12.0	12.0			12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	65.0					10.0	28.0		
Yellow	3.0	6.0					4.0	5.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 135.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	117	1583	4.05	0.07	1455	F		
TR	2221	4284	0.52	0.52	22.4	C	436.7	F
Westbound								
TR	2526	4871	1.21	0.52	129.8	F	129.8	F
Northbound								
L	180	1556	0.17	0.32	35.1	D		
T	421	1776	1.01	0.24	98.4	F	84.1	F
R	283	1196	0.71	0.24	61.3	E		
Southbound								
L	184	1612	0.59	0.32	40.0	D		
TR	819	3454	1.90	0.24	459.4	F	432.1	F

Intersection Delay = 269.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/02
Period: AM
Project ID:
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 No Build AM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	190		165				262	996			1197	274
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	276	1658	1.43	0.17	262.1	F	262.1	F
Westbound								
Northbound								
LT	499	1784	2.80	0.76	830.8	F	830.8	F
Southbound								
TR	1206	1856	1.35	0.65	186.2	F	186.2	F

Intersection Delay = 458.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	231	260	382	134	175	152	357	2361	12	112	1606	444
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	7.0				7.0	40.0		
Yellow	3.0	4.0				3.0	5.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	174	1719	1.48	0.10	278.5	F		
T	163	1845	1.77	0.09	407.6	F	605.6	F
R	143	1615	2.97	0.09	938.9	F		
Westbound								
L	177	1752	0.84	0.10	63.8	E		
T	163	1845	1.19	0.09	166.8	F	178.8	F
R	114	1282	1.48	0.09	293.9	F		
Northbound								
L	157	1770	2.53	0.09	742.4	F		
TR	1523	3008	1.73	0.51	351.1	F	402.3	F
Southbound								
L	143	1612	0.87	0.09	74.8	E		
TR	1639	3237	1.39	0.51	198.5	F	192.1	F

Intersection Delay = 341.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			TR	R
Volume	67		10				10	711			685	544
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	712	1752	0.10	0.41	12.1	B		
							12.0	B
R	656	1615	0.02	0.41	11.4	B		
Westbound								
Northbound								
L	126	311	0.09	0.41	13.1	B		
T	702	1727	1.13	0.41	93.0	F	91.9	F
Southbound								
TR	728	1792	1.05	0.41	64.8	E	56.1	E
R	631	1553	0.96	0.41	45.2	D		

Intersection Delay = 67.2 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Schalk's
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: Schalk's Crossing

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	1	2	2	1	2	2	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	89	206	21	12	1986	880	21	156	8	136	107	113
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A				SB	Left		P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	33.0					10.0	10.0		
Yellow	4.0	4.0					4.0	4.0		
All Red	0.0	2.0					1.5	1.5		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	131	1752	0.76	0.08	58.2	E		
TR	1966	4765	0.13	0.41	14.7	B	27.0	C
Westbound								
L	263	3502	0.05	0.08	34.4	C		
T	1460	3539	1.51	0.41	257.3	F	257.7	F
R	647	1568	1.51	0.41	261.7	F		
Northbound								
L	433	3467	0.05	0.13	31.1	C		
T	434	3471	0.40	0.13	35.0-	C	34.4	C
R	200	1599	0.05	0.13	31.2	C		
Southbound								
L	409	3273	0.37	0.13	34.7	C		
TR	410	3282	0.60	0.13	39.4	D	37.6	D

Intersection Delay = 206.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	84	194	72	10	1179	27	494	199	10	39	196	1204
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	15.0	31.0					20.0			
Yellow	3.0	5.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	387	1583	0.24	0.61	12.7	B		
TR	1284	3313	0.23	0.39	16.9	B	15.9	B
Westbound								
L	718	1805	0.02	0.61	6.3	A		
TR	1367	3529	0.98	0.39	44.3	D	44.0	D
Northbound								
LTR	166	664	4.70	0.25	1710	F	1710	F
Southbound								
LT	429	1715	0.61	0.25	32.8	C	918.8	F
R	400	1599	3.35	0.25	1091	F		

Intersection Delay = 696.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: BB
Agency/Co.: Urbitran
Date Performed: 10/14/2002
Analysis Time Period: AM
Intersection: Herrod Ave. & Rt 32
Jurisdiction: Middlesex Co, NJ
Units: U. S. Customary
Analysis Year: 2028 Future AM Peak Conditions
Project ID:
East/West Street: RT 32
North/South Street: Herrod Ave.
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	168	1089	127	14	1543	124
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	168	1089	127	14	1543	124
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	118	12	298	90	102	216
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	118	12	298	90	102	216
Percent Heavy Vehicles	9	8	8	12	7	19
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	2	0
Configuration		LTR		LT	TR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR		LT		TR
v (vph)	168	14		428		141		267
C(m) (vph)	373	558		0		0		24
v/c	0.45	0.03						11.13
95% queue length	2.26	0.08						33.38
Control Delay	22.3	11.6						
LOS	C	B		F		F		F
Approach Delay								
Approach LOS								

1.4 2028 No Build – PM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: Cozzens Rd.

Inter.: Cozzens Ln. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	3	0	0	3	0
LGConfig	L	TR		L	TR			T			TR	
Volume	124	494	57	138	174	462		3153			4207	836
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left				
Thru		P			Thru	P			
Right		P			Right				
Peds					Peds				
WB Left	A				SB Left				
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	11.0	35.0				87.0			
Yellow	3.0	4.0				6.0			
All Red	0.0	2.0				2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	130	1770	1.06	0.07	165.8	F		
TR	428	1836	1.43	0.23	264.1	F	246.0	F
Westbound								
L	131	1787	1.17	0.07	200.3	F		
TR	385	1652	1.83	0.23	442.7	F	399.5	F
Northbound								
T	2865	4940	1.22	0.58	135.0	F	135.0	F
Southbound								
TR	2862	4935	1.96	0.58	463.8	F	463.8	F

Intersection Delay = 335.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: Sandhill Rd.

Inter.: Sandhill Rd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	36	248	188	96	403	71		2432			1736	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	9.0	34.0					95.0			
Yellow	3.0	3.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 157.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	102	1787	0.39	0.06	73.8	E		
T	407	1881	0.68	0.22	65.3	E	58.0	E
R	494	1583	0.42	0.31	45.4	D		
Westbound								
L	97	1687	1.10	0.06	195.9	F		
T	407	1881	1.10	0.22	136.2	F	134.3	F
R	485	1553	0.16	0.31	39.9	D		
Northbound								
T	2080	3438	1.30	0.61	169.2	F	169.2	F
Southbound								
T	2042	3374	0.94	0.61	39.1	D	39.1	D

Intersection Delay = 112.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: NEW RD.

Inter.: NEW RD. & RT 1
Area Type: All other areas
Jurisd: MIDDLESEX COUNTY
Year : 2028 No Build PM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	15	314	160	18	452	55		2922			1681	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	23.0					90.0			
Yellow	3.0	4.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	89	1770	0.19	0.05	64.8	E		
T	303	1845	1.15	0.16	157.8	F	118.5	F
R	415	1615	0.43	0.26	46.6	D		
Westbound								
L	87	1736	0.23	0.05	65.3	E		
T	309	1881	1.62	0.16	354.0	F	311.3	F
R	407	1583	0.15	0.26	41.0	D		
Northbound								
T	2231	3471	1.46	0.64	232.5	F	232.5	F
Southbound								
T	2169	3374	0.86	0.64	24.8	C	24.8	C

Intersection Delay = 167.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: RT 522 Promenade Rd.

Inter.: RT 522 Promenade Blvd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	215	399	31	539	329	301		3059			1755	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left				
Thru		P			Thru	P			
Right	P	P			Right				
Peds					Peds				
WB Left	A				SB Left				
Thru		P			Thru	P			
Right	P	P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	5.0	28.0				94.0			
Yellow	3.0	3.0				6.0			
All Red	2.0	2.0				2.0			

Cycle Length: 145.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	61	1770	3.92	0.03	1421	F		
T	363	1881	1.22	0.19	180.1	F	587.9	F
R	423	1615	0.08	0.26	40.7	D		
Westbound								
L	60	1736	9.98	0.03	4145	F		
T	360	1863	1.02	0.19	110.2	F	1959	F
R	415	1583	0.80	0.26	65.3	E		
Northbound								
T	2147	3312	1.58	0.65	290.2	F	290.2	F
Southbound								
T	2250	3471	0.87	0.65	25.3	C	25.3	C

Intersection Delay = 543.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

** Note the WB left turn volume entered as 539 (not 656); HCS would not accept a higher volume and still generate a delay for that lane.

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	2	0	0	2	0
LGConfig	L	TR		L	T	R		T			T	
Volume	439	389	35	320	581	229		2688			1784	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A	P			SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	21.0					55.0			
Yellow	3.0	4.0					6.0			
All Red	2.0	2.0					1.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	170	1641	2.87	0.32	889.6	F		
TR	380	1809	1.24	0.21	167.8	F	535.1	F
Westbound								
L	173	1687	2.06	0.32	527.2	F		
T	391	1863	1.65	0.21	344.2	F	336.9	F
R	336	1599	0.76	0.21	51.7	D		
Northbound								
T	1909	3471	1.56	0.55	279.2	F	279.2	F
Southbound								
T	1856	3374	1.07	0.55	64.2	E	64.2	E

Intersection Delay = 264.1 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: RT 522 Promeade

Inter.: Rt 27 & Promeade Blvd (RT522)
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	1	1	1	1	1	1	1
LGConfig		LT	R	L	T	R	L	T	R	L	T	R
Volume	15	15	15	290	15	357	15	760	191	357	253	15
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	273	1069	0.12	0.26	26.7	C	26.4	C
R	258	1009	0.07	0.26	25.9	C		
Westbound								
L	340	1330	0.95	0.26	70.0	E		
T	486	1900	0.03	0.26	25.3	C	70.7	E
R	405	1583	0.98	0.26	73.3	E		
Northbound								
L	75	1128	0.23	0.07	41.3	D		
T	1045	1881	0.81	0.56	22.8	C	19.9	B
R	1048	1599	0.20	0.66	6.6	A		
Southbound								
L	120	1805	3.31	0.07	1101	F		
T	1035	1863	0.27	0.56	11.1	B	634.0	F
R	661	1009	0.03	0.66	5.5	A		

Intersection Delay = 201.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig					TR			TR			LT	
Volume				331	10		514	371		31	502	
Lane Width				12.0			12.0				12.0	
RTOR Vol					0			0				

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left					SB	Left	P			
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
TR	473	1891	0.80	0.25	34.5	C	34.5	C
Northbound								
TR	1121	1725	0.88	0.65	18.3	B	18.3	B
Southbound								
LT	1106	1701	0.54	0.65	7.5	A	7.5	A

Intersection Delay = 18.1 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 11/21/02
Period: PM Peak Hour
Project ID:
E/W St: Route 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 No Build

N/S St: Laurel Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	600	133	61	760	10	286	257	272	10	248	49
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	94	188	0.23	0.50	17.1	B		
TR	866	1731	1.65	0.50	319.8	F	315.2	F
Westbound								
L	94	188	1.20	0.50	177.0	F		
TR	821	1642	1.76	0.50	368.7	F	354.8	F
Northbound								
LTR	385	1026	4.87	0.38	1771	F	1771	F
Southbound								
LTR	610	1627	0.85	0.38	37.2	D	37.2	D

Intersection Delay = 804.1 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No BuildPM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	1	2	0	1	1	0	1	1	0
LGConfig		T	R	L	TR		L	TR		L	T	
Volume		1391	518	10	150	39	192	1018	10	121	126	
Lane Width		12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru	A	P				Thru	P			
Right	A	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	27.0					41.0			
Yellow	4.0	4.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1062	3539	1.46	0.30	241.9	F	222.4	F
R	453	1509	1.27	0.30	170.1	F		
Westbound								
L	244	1805	0.05	0.43	18.7	B		
TR	1394	3217	0.15	0.43	15.5	B	15.7	B
Northbound								
L	490	1075	0.43	0.46	19.4	B		
TR	779	1711	1.47	0.46	241.2	F	206.4	F
Southbound								
L	82	180	1.63	0.46	358.2	F		
T	841	1845	0.17	0.46	14.9	B	182.8	F

Intersection Delay = 202.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	222		44				487	229			209	194
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	270	1752	0.91	0.15	63.7	E		
							57.4	E
R	248	1615	0.20	0.15	25.8	C		
Westbound								
Northbound								
L	724	1070	0.75	0.68	13.8	B		
T	1180	1743	0.22	0.68	4.4	A	10.8	B
Southbound								
T	1273	1881	0.18	0.68	4.2	A	4.3	A
R	1072	1583	0.20	0.68	4.4	A		

Intersection Delay = 17.9 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	1	1	1	1	0	0	1	1
LGConfig		LR		L	T	R	L	T			T	R
Volume	210		144	754	47	10	18	1742			1892	76
Lane Width		12.0		12.0	12.0	12.0	12.0	12.0			12.0	12.0
RTOR Vol			0			0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	P				NB Left	P			
Thru					Thru	P			
Right	P				Right				
Peds					Peds				
WB Left	P				SB Left				
Thru	P				Thru	P			
Right	P				Right	P			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	13.0					74.0			
Yellow	4.0					5.0			
All Red	2.0					2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	182	1401	2.16	0.13	583.0	F	583.0	F
Westbound								
L	215	1656	3.90	0.13	1358	F		
T	240	1845	0.22	0.13	41.0	D	1266	F
R	208	1599	0.05	0.13	38.6	D		
Northbound								
L	105	142	0.19	0.74	7.9	A		
T	1202	1624	1.61	0.74	291.7	F	288.8	F
Southbound								
T	1314	1776	1.60	0.74	286.5	F	275.6	F
R	1171	1583	0.07	0.74	3.7	A		

Intersection Delay = 466.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: RT 32 Forsgate Dr

Inter.: RT 32 Forsgate Dr & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2028 No Build PM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	0	3	0	1	1	1	1	2	0
LGConfig	L	TR			TR		L	T	R	L	TR	
Volume	470	1635	106		1501	59	9	260	397	306	1024	130
Lane Width	12.0	13.0			12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	65.0					10.0	28.0		
Yellow	3.0	6.0					4.0	5.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 135.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	120	1626	4.35	0.07	1589	F		
TR	2602	5019	0.74	0.52	27.4	C	359.3	F
Westbound								
TR	2400	4629	0.72	0.52	26.9	C	26.9	C
Northbound								
L	187	1641	0.05	0.32	34.5	C		
T	421	1776	0.69	0.24	55.7	E	137.0	F
R	348	1468	1.27	0.24	192.7	F		
Southbound								
L	236	1719	1.44	0.32	269.6	F		
TR	809	3413	1.58	0.24	320.5	F	309.8	F

Intersection Delay = 234.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/02
Period: PM
Project ID:
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 No Build PM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	222		163				93	921			1034	259
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	283	1700	1.51	0.17	298.0	F	298.0	F
Westbound								
Northbound								
LT	711	1835	1.58	0.76	283.9	F	283.9	F
Southbound								
TR	1169	1799	1.23	0.65	131.8	F	131.8	F

Intersection Delay = 212.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	654	199	118	82	89	167	16	1991	10	200	1628	171
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	7.0				7.0	40.0		
Yellow	3.0	4.0				3.0	5.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	176	1736	4.13	0.10	1457	F		
T	165	1863	1.34	0.09	223.7	F	1039	F
R	142	1599	0.92	0.09	92.9	F		
Westbound								
L	181	1787	0.50	0.10	35.8	D		
T	162	1827	0.61	0.09	50.7	D	174.9	F
R	122	1380	1.52	0.09	309.1	F		
Northbound								
L	152	1719	0.12	0.09	33.5	C		
TR	1562	3085	1.42	0.51	213.7	F	212.3	F
Southbound								
L	151	1703	1.47	0.09	279.9	F		
TR	1647	3252	1.21	0.51	121.5	F	137.4	F

Intersection Delay = 332.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	236		10				10	231			610	309
Lane Width	12.0		12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	712	1752	0.37	0.41	14.7	B		
							14.6	B
R	656	1615	0.02	0.41	11.4	B		
Westbound								
Northbound								
L	119	292	0.09	0.41	13.3	B		
T	722	1776	0.36	0.41	14.6	B	14.5	B
Southbound								
TR	685	1685	1.49	0.41	247.4	F	247.4	F

Intersection Delay = 166.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Schalk's
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: Schalk's Crossing

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	1	2	2	1	2	2	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	205	2336	302	69	634	200	107	99	66	260	213	63
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
WB Left	A				SB Left		P		
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	6.0	33.0				10.0	10.0		
Yellow	4.0	4.0				4.0	4.0		
All Red	0.0	2.0				1.5	1.5		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	131	1752	1.74	0.08	399.9	F		
TR	2064	5004	1.42	0.41	215.6	F	228.9	F
Westbound								
L	263	3502	0.29	0.08	35.6	D		
T	1460	3539	0.48	0.41	18.4	B	19.5	B
R	653	1583	0.34	0.41	17.5	B		
Northbound								
L	429	3433	0.28	0.13	33.3	C		
T	442	3539	0.25	0.13	33.0	C	34.2	C
R	198	1583	0.37	0.13	37.3	D		
Southbound								
L	417	3335	0.69	0.13	42.7	D		
TR	426	3411	0.72	0.13	43.7	D	43.2	D

Intersection Delay = 153.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	1242	782	637	10	282	274	10	424	10	30	135	612
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	15.0	31.0					20.0			
Yellow	3.0	5.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Flow	Sat Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound									
L	553	1752		2.50	0.61	690.6	F		
TR	1292	3334		1.22	0.39	131.0	F	392.1	F
Westbound									
L	433	1805		0.03	0.61	11.7	B		
TR	1264	3261		0.49	0.39	19.9	B	19.7	B
Northbound									
LTR	465	1858		1.06	0.25	88.6	F	88.6	F
Southbound									
LT	339	1355		0.54	0.25	32.1	C	287.0	F
R	400	1599		1.70	0.25	355.6	F		

Intersection Delay = 296.1 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: BB
Agency/Co.: Urbitran
Date Performed: 10/14/2002
Analysis Time Period: PM
Intersection: Herrod Ave. & Rt 32
Jurisdiction: Middlesex Co, NJ
Units: U. S. Customary
Analysis Year: 2028 No Build PM Conditions
Project ID:
East/West Street: RT 32
North/South Street: Herrod Ave.
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	143	1666	45	18	768	56
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	143	1666	45	18	768	56
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	109	46	417	128	10	384
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	109	46	417	128	10	384
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	2	0
Configuration		LTR		LT	TR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	L		LTR		LT		TR
v (vph)	143	18		572		133		389
C(m) (vph)	815	376		10		0		388
v/c	0.18	0.05		57.20				1.00
95% queue length	0.63	0.15		73.18				12.14
Control Delay	10.4	15.1						79.6
LOS	B	C		F		F		F
Approach Delay								
Approach LOS				F				

HCS2000: Unsignalized Intersections Release 4.1c

1.5 2028 Build Route 92– AM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: Cozzens Rd.

Inter.: Cozzens Ln. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	3	0	0	3	0
LGConfig	L	TR		L	TR			T			T	
Volume	204	567	15	339	441	281		2562			3698	
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	11.0	35.0					87.0			
Yellow	3.0	4.0					6.0			
All Red	0.0	2.0					2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	132	1805	1.72	0.07	423.2	F		
TR	425	1822	1.52	0.23	304.3	F	335.2	F
Westbound								
L	131	1787	2.88	0.07	935.1	F		
TR	409	1754	1.96	0.23	498.7	F	638.2	F
Northbound								
T	2838	4893	1.00	0.58	49.1	D	49.1	D
Southbound								
T	2893	4988	1.42	0.58	222.7	F	222.7	F

Intersection Delay = 233.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: Sandhill Rd.

Inter.: Sandhill Rd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt 92 AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	137	215	291	186	198	189		2045			2581	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left			
Thru		P			Thru	P		
Right	P	P			Right			
Peds					Peds			
WB Left	A				SB Left			
Thru		P			Thru	P		
Right	P	P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	9.0	34.0			95.0			
Yellow	3.0	3.0			6.0			
All Red	3.0	2.0			2.0			

Cycle Length: 157.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	103	1805	1.48	0.06	332.9	F		
T	407	1881	0.59	0.22	61.3	E	115.3	F
R	499	1599	0.65	0.31	52.9	D		
Westbound								
L	101	1770	2.05	0.06	578.8	F		
T	400	1845	0.55	0.22	60.1	E	223.8	F
R	499	1599	0.42	0.31	45.4	D		
Northbound								
T	2042	3374	1.11	0.61	89.3	F	89.3	F
Southbound								
T	2100	3471	1.37	0.61	198.7	F	198.7	F

Intersection Delay = 153.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: NEW RD.

Inter.: NEW RD. & RT 1
Area Type: All other areas
Jurisd: MIDDLESEX COUNTY
Year : 2028 with RT92 AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	26	418	262	60	258	152		1939			2947	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left				
Thru		P			Thru	P			
Right	P	P			Right				
Peds					Peds				
WB Left	A				SB Left				
Thru		P			Thru	P			
Right	P	P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	7.0	23.0				90.0			
Yellow	3.0	4.0				6.0			
All Red	3.0	2.0				2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	89	1787	0.33	0.05	66.4	E		
T	309	1881	1.50	0.16	300.5	F	201.3	F
R	415	1615	0.70	0.26	56.6	E		
Westbound								
L	89	1770	0.75	0.05	95.5	F		
T	306	1863	0.94	0.16	95.6	F	79.6	E
R	411	1599	0.41	0.26	46.2	D		
Northbound								
T	2149	3343	1.00	0.64	45.0	D	45.0	D
Southbound								
T	2231	3471	1.47	0.64	237.9	F	237.9	F

Intersection Delay = 159.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: RT 522 Promenade Rd.

Inter.: RT 522 Promenade Blvd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	150	386	137	548	478	137		1976			2624	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	5.0	28.0					94.0			
Yellow	3.0	3.0					6.0			
All Red	2.0	2.0					2.0			

Cycle Length: 145.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	60	1752	2.78	0.03	916.9	F		
T	363	1881	1.18	0.19	165.1	F	308.7	F
R	423	1615	0.36	0.26	46.0	D		
Westbound								
L	61	1770	9.98	0.03	4145	F		
T	363	1881	1.46	0.19	281.4	F	2074	F
R	411	1568	0.37	0.26	46.3	D		
Northbound								
T	2167	3343	1.01	0.65	48.2	D	48.2	D
Southbound								
T	2250	3471	1.30	0.65	162.1	F	162.1	F

Intersection Delay = 488.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

** Note the WB left turn volume entered as 548 (not 740); HCS would not accept a higher volume and still generate a delay for that lane.

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	3	0	0	3	0
LGConfig	L	TR		L	T	R		T			T	
Volume	390	485	137	57	501	233		2508			4832	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A	P			SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	22.0					75.0			
Yellow	3.0	4.0					6.0			
All Red	0.0	2.0					2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	148	1736	2.93	0.26	927.0	F		
TR	333	1819	2.08	0.18	543.0	F	690.9	F
Westbound								
L	144	1687	0.44	0.26	38.3	D		
T	338	1845	1.65	0.18	353.5	F	251.6	F
R	282	1538	0.92	0.18	84.3	F		
Northbound								
T	3030	4848	0.92	0.63	25.7	C	25.7	C
Southbound								
T	3118	4988	1.72	0.63	348.7	F	348.7	F

Intersection Delay = 289.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Rt 522

Inter.: Rt 27 & 522
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	25	25	25	308	25	184	25	510	257	160	932	25
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	205	802	0.14	0.26	27.2	C		
TR	257	1004	0.22	0.26	28.4	C	28.0	C
Westbound								
L	346	1355	0.99	0.26	78.9	E		
T	278	1086	0.10	0.26	26.3	C	60.0	E
R	409	1599	0.50	0.26	32.9	C		
Northbound								
L	69	1031	0.41	0.07	44.2	D		
T	1045	1881	0.54	0.56	14.7	B	13.2	B
R	1059	1615	0.27	0.66	7.1	A		
Southbound								
L	120	1805	1.48	0.07	298.5	F		
T	1045	1881	0.99	0.56	45.6	D	81.0	F
R	605	923	0.05	0.66	5.7	A		

Intersection Delay = 53.6 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build AM Peak Hour

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig					TR			TR			LT	
Volume				290	50		504	136		132	1095	
Lane Width				12.0			12.0				12.0	
RTOR Vol					0			0				

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left					SB	Left	P			
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
TR	464	1856	0.81	0.25	35.7	D	35.7	D
Northbound								
TR	1169	1798	0.61	0.65	8.4	A	8.4	A
Southbound								
LT	980	1508	1.39	0.65	193.1	F	193.1	F

Intersection Delay = 115.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 11/22/02
Period: AM Peak Hour
Project ID:
E/W St: Route 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 w/ Rt 92

N/S St: Laurel Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	632	216	90	1062	17	204	267	75	10	271	122
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L				0.50				
TR	861	1721	1.91	0.50	433.1	F		
Westbound								
L	94	188	1.78	0.50	408.8	F		
TR	821	1642	2.47	0.50	685.8	F	664.7	F
Northbound								
LTR	279	744	3.52	0.38	1169	F	1169	F
Southbound								
LTR	614	1637	1.10	0.38	90.9	F	90.9	F

Intersection Delay = (sec/veh) Intersection LOS =

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	1	2	0	1	1	0	1	1	0
LGConfig		T	R	L	TR		L	TR		L	T	
Volume		531	1085	50	923	301	416	139	50	114	101	
Lane Width		12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
WB Left	A	P			SB Left	P			
Thru	A	P			Thru	P			
Right	A	P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	27.0				41.0			
Yellow	4.0	4.0				4.0			
All Red	0.0	1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1062	3539	0.56	0.30	28.6	C	507.9	F
R	470	1568	2.57	0.30	742.4	F		
Westbound								
L	322	1805	0.17	0.43	16.2	B		
TR	1488	3434	0.91	0.43	33.0	C	32.3	C
Northbound								
L	575	1263	0.80	0.46	32.4	C		
TR	785	1723	0.27	0.46	16.0	B	27.3	C
Southbound								
L	518	1136	0.25	0.46	16.1	B		
T	832	1827	0.13	0.46	14.5	B	15.4	B

Intersection Delay = 237.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	256		39				200	974			313	105
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	277	1798	1.03	0.15	88.2	F	80.0-	E
R	248	1615	0.17	0.15	25.4	C		
Westbound								
Northbound								
L	707	1044	0.31	0.68	5.5	A		
T	1266	1870	0.85	0.68	15.5	B	13.8	B
Southbound								
T	1281	1892	0.27	0.68	4.7	A	4.5	A
R	1093	1615	0.11	0.68	3.9	A		

Intersection Delay = 22.1 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 AM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	1	0	0	2	0	0	2	0
LGConfig		LR		L	T			T			TR	
Volume	261		252	6	51			2455			1628	68
Lane Width		12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left				
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left	P				SB	Left				
Thru	P					Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	13.0						74.0			
Yellow	4.0						5.0			
All Red	2.0						2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	177	1363	3.22	0.13	1057	F	1057	F
Westbound								
L	223	1719	0.03	0.13	38.3	D		
T	245	1881	0.23	0.13	41.2	D	40.9	D
Northbound								
T	2245	3034	1.22	0.74	114.1	F	114.1	F
Southbound								
TR	2421	3272	0.78	0.74	10.5	B	10.5	B

Intersection Delay = 178.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 11/19/2002
Period: AM
Project ID:
E/W St: Rt 32 EB

Inter.: Rt 32 EB & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	0	0	0	2	1	1	2	0
LGConfig	L	TR						T	R	L	T	
Volume	197	605	103					586	613	482	1552	
Lane Width	12.0	12.0						12.0	12.0	12.0	12.0	
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left				
Thru	P					Thru		P		
Right	P					Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru						Thru	A	P		
Right						Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	28.0						15.0	63.0		
Yellow	4.0						3.0	4.0		
All Red	1.5						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	414	1656	0.53	0.25	43.7	D		
TR	887	3227	0.89	0.28	54.4	D	52.0	D
Westbound								
Northbound								
T	1884	3374	0.35	0.56	15.0	B	22.7	C
R	835	1495	0.82	0.56	30.1	C		
Southbound								
L	584	1805	0.92	0.68	48.3	D		
T	2303	3252	0.75	0.71	12.1	B	20.7	C

Intersection Delay = 28.1 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 11/19/2002
Period: AM
Project ID:
E/W St: Rt 32 WB

Inter.: Rt 32 WB & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	2	0	1	2	0	0	2	1
LGConfig				L	TR		L	T			T	R
Volume				735	1348	155	10	773			1299	295
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol					0						0	

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A	P		
Thru						Thru	A	P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left				
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		51.0					5.0	50.0		
Yellow		4.0					3.0	4.0		
All Red		1.5					0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	752	1770	1.09	0.43	93.3	F		
TR	1644	3523	1.02	0.47	58.2	E	69.7	E
Northbound								
L	149	1752	0.07	0.49	25.4	C		
T	1743	3374	0.49	0.52	18.9	B	19.0	B
Southbound								
T	1463	3252	0.99	0.45	53.1	D	48.7	D
R	623	1495	0.53	0.42	29.3	C		

Intersection Delay = 53.9 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/02
Period: AM
Project ID:
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	210		176				69	1489			685	362
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	268	1605	1.60	0.17	337.2	F	337.2	F
Westbound								
Northbound								
LT	919	1814	1.88	0.76	416.2	F	416.2	F
Southbound								
TR	1227	1888	0.95	0.65	35.0+	D	35.0+	D

Intersection Delay = 272.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	141	209	255	19	193	192	371	2052	35	184	1241	183
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	7.0				7.0	40.0		
Yellow	3.0	4.0				3.0	5.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	177	1752	0.89	0.10	72.8	E		
T	168	1900	1.38	0.09	240.1	F	310.7	F
R	143	1615	1.98	0.09	500.7	F		
Westbound								
L	183	1805	0.11	0.10	32.6	C		
T	154	1743	1.39	0.09	246.1	F	263.4	F
R	140	1583	1.52	0.09	303.5	F		
Northbound								
L	154	1736	2.68	0.09	808.1	F		
TR	1511	2985	1.53	0.51	263.5	F	345.7	F
Southbound								
L	133	1504	1.53	0.09	310.3	F		
TR	1630	3219	0.97	0.51	35.2	D	66.7	E

Intersection Delay = 246.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 AM Peak Hour

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	75		1				0	703			447	434
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	719	1770	0.12	0.41	12.2	B		
							12.2	B
R	656	1615	0.00	0.41	11.3	B		
Westbound								
Northbound								
L	244	600	0.00	0.41	11.3	B		
T	702	1727	1.11	0.41	88.2	F	88.2	F
Southbound								
T	728	1792	0.68	0.41	20.7	C	22.8	C
R	631	1553	0.76	0.41	24.9	C		

Intersection Delay = 50.0 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: AM
Project ID:
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	67	251	75	231	851	56	483	110	10	33	204	1049
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	15.0	31.0					20.0			
Yellow	3.0	5.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	429	1787	0.17	0.61	9.5	A		
TR	1303	3362	0.28	0.39	17.3	B	16.0	B
Westbound								
L	694	1805	0.37	0.61	7.6	A		
TR	1373	3543	0.73	0.39	24.5	C	21.1	C
Northbound								
LTR	156	623	4.29	0.25	1527	F	1527	F
Southbound								
LT	447	1789	0.59	0.25	32.0	C	738.6	F
R	400	1599	2.91	0.25	898.5	F		

Intersection Delay = 556.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

1.6 2028 Build Route 92– PM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: Cozzens Rd.

Inter.: Cozzens Ln. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 PM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	3	0	0	3	0
LGConfig	L	TR		L	TR			T			T	
Volume	130	478	65	131	171	442		2831			4163	
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	11.0	35.0					87.0			
Yellow	3.0	4.0					6.0			
All Red	0.0	2.0					2.0			

Cycle Length: 150.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	130	1770	1.11	0.07	180.3	F		
TR	424	1816	1.42	0.23	260.8	F	245.3	F
Westbound								
L	131	1787	1.11	0.07	182.2	F		
TR	387	1659	1.76	0.23	409.8	F	369.6	F
Northbound								
T	2893	4988	1.09	0.58	77.5	E	77.5	E
Southbound								
T	2921	5036	1.58	0.58	295.8	F	295.8	F

Intersection Delay = 224.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: AM
Project ID:
E/W St: Sandhill Rd.

Inter.: Sandhill Rd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt 92 AM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	39	239	185	69	446	34		2077			1703	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	9.0	34.0					95.0			
Yellow	3.0	3.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 157.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	102	1787	0.42	0.06	74.3	E		
T	407	1881	0.65	0.22	64.1	E	57.4	E
R	494	1583	0.42	0.31	45.3	D		
Westbound								
L	101	1770	0.76	0.06	101.4	F		
T	407	1881	1.22	0.22	180.3	F	161.5	F
R	499	1599	0.08	0.31	38.3	D		
Northbound								
T	2080	3438	1.11	0.61	87.9	F	87.9	F
Southbound								
T	2042	3374	0.93	0.61	36.6	D	36.6	D

Intersection Delay = 75.2 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: NEW RD.

Inter.: NEW RD. & RT 1
Area Type: All other areas
Jurisd: MIDDLESEX COUNTY
Year : 2028 with RT92 PM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	18	292	172	17	462	40		2503			1603	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	23.0					90.0			
Yellow	3.0	4.0					6.0			
All Red	3.0	2.0					2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	89	1770	0.22	0.05	65.2	E		
T	306	1863	1.06	0.16	126.3	F	95.9	F
R	415	1615	0.46	0.26	47.5	D		
Westbound								
L	87	1736	0.22	0.05	65.1	E		
T	309	1881	1.66	0.16	369.6	F	334.4	F
R	411	1599	0.11	0.26	40.2	D		
Northbound								
T	2231	3471	1.25	0.64	139.9	F	139.9	F
Southbound								
T	2169	3374	0.82	0.64	22.6	C	22.6	C

Intersection Delay = 118.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/2002
Period: PM
Project ID:
E/W St: Rt 522 Promenade Rd.

Inter.: RT 522 Promenade Blvd. & Rt1
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 PM Peak Hour

N/S St: RT 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	2	0	0	2	0
LGConfig	L	T	R	L	T	R		T			T	
Volume	158	421	45	548	312	292		2748			1750	
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
WB Left	A				SB	Left				
Thru		P				Thru	P			
Right	P	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	5.0	28.0					94.0			
Yellow	3.0	3.0					6.0			
All Red	2.0	2.0					2.0			

Cycle Length: 145.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	62	1805	2.84	0.03	940.0	F		
T	367	1900	1.28	0.19	202.0	F	377.6	F
R	423	1615	0.12	0.26	41.3	D		
Westbound								
L	61	1770	9.98	0.03	4145	F		
T	363	1881	0.96	0.19	95.2	F	2013	F
R	419	1599	0.77	0.26	62.5	E		
Northbound								
T	2250	3471	1.36	0.65	189.1	F	189.1	F
Southbound								
T	2187	3374	0.89	0.65	27.1	C	27.1	C

Intersection Delay = 497.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

** Note the WB left turn volume entered as 548 (not 615); HCS would not accept a higher volume and still generate a delay for that lane.

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	3	0	0	3	0
LGConfig	L	TR		L	T	R		T			T	
Volume	437	396	32	383	469	213		3660			2073	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A	P			NB Left				
Thru		P			Thru	P			
Right		P			Right				
Peds					Peds				
WB Left	A	P			SB Left				
Thru		P			Thru	P			
Right		P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	6.0	22.0				75.0			
Yellow	3.0	4.0				6.0			
All Red	0.0	2.0				2.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	148	1736	3.28	0.26	1087	F		
TR	341	1860	1.40	0.18	244.1	F	670.1	F
Westbound								
L	144	1687	2.96	0.26	942.1	F		
T	338	1845	1.54	0.18	307.0	F	488.5	F
R	282	1538	0.84	0.18	72.3	E		
Northbound								
T	3030	4848	1.34	0.63	178.8	F	178.8	F
Southbound								
T	3118	4988	0.74	0.63	17.3	B	17.3	B

Intersection Delay = 233.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Rt 522

Inter.: Rt 27 & 522
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	1	1	1	1	1	1
LGConfig	L	TR		L	T	R	L	T	R	L	T	R
Volume	15	15	15	241	15	341	15	737	197	168	267	15
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	220	859	0.08	0.26	26.1	C		
TR	272	1065	0.13	0.26	26.7	C	26.5	C
Westbound								
L	350	1369	0.77	0.26	45.8	D		
T	294	1152	0.06	0.26	25.7	C	55.6	E
R	405	1583	0.94	0.26	63.9	E		
Northbound								
L	73	1094	0.23	0.07	41.5	D		
T	1045	1881	0.78	0.56	21.6	C	18.8	B
R	1059	1615	0.21	0.66	6.6	A		
Southbound								
L	120	1805	1.56	0.07	329.8	F		
T	1035	1863	0.29	0.56	11.3	B	130.0	F
R	642	979	0.03	0.66	5.5	A		

Intersection Delay = 54.3 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 No Build PM Peak Hour

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig					TR			TR			LT	
Volume				440	106		490	250		106	373	
Lane Width				12.0			12.0				12.0	
RTOR Vol					0			0				

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left					SB	Left	P			
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
TR	461	1843	1.32	0.25	179.7	F	179.7	F
Northbound								
TR	1144	1760	0.72	0.65	10.8	B	10.8	B
Southbound								
LT	861	1325	0.62	0.65	9.5	A	9.5	A

Intersection Delay = 62.7 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 11/22/02
Period: PM Peak Hour
Project ID:
E/W St: Route 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 w/ Rt 92

N/S St: Laurel Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	588	130	68	734	10	313	225	219	10	255	21
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	94	188	0.23	0.50	17.1	B		
TR	865	1729	1.62	0.50	305.7	F	301.3	F
Westbound								
L	94	188	1.34	0.50	228.6	F		
TR	829	1658	1.69	0.50	334.6	F	325.9	F
Northbound								
LTR	371	988	4.46	0.38	1589	F	1589	F
Southbound								
LTR	615	1641	0.80	0.38	32.5	C	32.5	C

Intersection Delay = 701.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	1	2	0	1	1	0	1	1	0
LGConfig		T	R	L	TR		L	TR		L	T	
Volume		1143	361	10	123	18	179	913	10	86	150	
Lane Width		12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru	A	P				Thru	P			
Right	A	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	27.0					41.0			
Yellow	4.0	4.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1083	3610	1.17	0.30	119.2	F	102.1	F
R	466	1553	0.86	0.30	48.1	D		
Westbound								
L	244	1805	0.05	0.43	18.7	B		
TR	1483	3422	0.11	0.43	15.2	B	15.4	B
Northbound								
L	508	1115	0.39	0.46	18.5	B		
TR	824	1808	1.24	0.46	144.5	F	124.0	F
Southbound								
L	84	184	1.14	0.46	166.4	F		
T	857	1881	0.19	0.46	15.1	B	70.4	E

Intersection Delay = 103.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	160		58				159	459			169	181
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	274	1780	0.65	0.15	37.2	D		
							34.4	C
R	248	1615	0.26	0.15	26.7	C		
Westbound								
Northbound								
L	787	1163	0.22	0.68	4.7	A		
T	1241	1833	0.41	0.68	5.7	A	5.4	A
Southbound								
T	1269	1874	0.15	0.68	4.0	A	4.1	A
R	1072	1583	0.19	0.68	4.3	A		

Intersection Delay = 10.4 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 PM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	1	0	0	2	0	0	2	0
LGConfig		LR		L	T			T			TR	
Volume	155		366	6	27			2091			1945	54
Lane Width		12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left				
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left	P				SB	Left				
Thru	P					Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	13.0						74.0			
Yellow	4.0						5.0			
All Red	2.0						2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	182	1402	3.18	0.13	1039	F	1039	F
Westbound								
L	235	1805	0.03	0.13	38.2	D		
T	240	1845	0.13	0.13	39.5	D	39.3	D
Northbound								
T	2226	3008	1.04	0.74	44.6	D	44.6	D
Southbound								
TR	2381	3218	0.93	0.74	19.2	B	19.2	B

Intersection Delay = 145.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 11/19/2002
Period: PM
Project ID:
E/W St: Rt 32 EB

Inter.: Rt 32 EB & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	0	0	0	2	1	1	2	0
LGConfig	L	TR						T	R	L	T	
Volume	128	1199	31					714	693	693	1228	
Lane Width	12.0	12.0						12.0	12.0	12.0	12.0	
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left				
Thru	P					Thru		P		
Right	P					Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru						Thru	A	P		
Right						Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	28.0						15.0	61.0		
Yellow	4.0						3.0	4.0		
All Red	1.5						0.0	1.5		

Cycle Length: 118.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	421	1656	0.34	0.25	38.1	D		
TR	915	3273	1.49	0.28	270.1	F	248.3	F
Westbound								
Northbound								
T	1859	3374	0.43	0.55	16.3	B	29.7	C
R	824	1495	0.93	0.55	43.5	D		
Southbound								
L	517	1805	1.49	0.68	244.6	F		
T	2287	3252	0.60	0.70	9.2	A	94.1	F

Intersection Delay = 119.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 11/19/2002
Period: PM
Project ID:
E/W St: Rt 32 WB

Inter.: Rt 32 WB & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2028 with RT92 AM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	2	0	1	2	0	0	2	1
LGConfig				L	TR		L	T			T	R
Volume				600	553	21	158	684			1321	158
Lane Width				12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A	P		
Thru						Thru	A	P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left				
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		49.0					6.0	51.0		
Yellow		4.0					3.0	4.0		
All Red		1.5					0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	723	1770	0.92	0.41	52.8	D		
TR	1600	3556	0.40	0.45	22.9	C	38.2	D
Northbound								
L	164	1752	1.07	0.51	123.2	F		
T	1799	3374	0.42	0.53	16.9	B	36.9	D
Southbound								
T	1491	3252	0.98	0.46	52.0	D	49.0	D
R	635	1495	0.28	0.43	23.6	C		

Intersection Delay = 42.4 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/11/02
Period: PM
Project ID:
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	294		95				204	1058			906	442
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	273	1638	1.59	0.17	330.5	F	330.5	F
Westbound								
Northbound								
LT	620	1899	2.26	0.76	588.0	F	588.0	F
Southbound								
TR	1188	1827	1.26	0.65	145.3	F	145.3	F

Intersection Delay = 355.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	125	128	214	71	31	93	21	1737	9	268	1685	137
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	7.0				7.0	40.0		
Yellow	3.0	4.0				3.0	5.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	179	1770	0.78	0.10	53.8	D		
T	167	1881	0.85	0.09	74.3	E	201.5	F
R	143	1615	1.66	0.09	363.7	F		
Westbound								
L	177	1752	0.45	0.10	35.2	D		
T	168	1900	0.20	0.09	36.1	D	51.0	D
R	135	1524	0.76	0.09	68.0	E		
Northbound								
L	152	1719	0.15	0.09	33.7	C		
TR	1486	2935	1.31	0.51	162.0	F	160.5	F
Southbound								
L	155	1752	1.92	0.09	474.1	F		
TR	1597	3155	1.27	0.51	144.9	F	187.2	F

Intersection Delay = 172.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with Rt92 PM Peak Hour

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	224		10				10	193			356	265
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	719	1770	0.35	0.41	14.4	B		
							14.3	B
R	656	1615	0.02	0.41	11.4	B		
Westbound								
Northbound								
L	305	750	0.04	0.41	11.7	B		
T	728	1792	0.29	0.41	13.8	B	13.7	B
Southbound								
T	696	1712	0.57	0.41	18.0	B	17.4	B
R	619	1524	0.47	0.41	16.6	B		

Intersection Delay = 16.0 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Schalk's Crossing
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: Schalk's Crossing

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	1	2	2	1	2	2	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	329	1831	285	82	638	133	119	103	64	65	173	214
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
WB Left	A				SB Left		P		
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	6.0	33.0				10.0	10.0		
Yellow	4.0	4.0				4.0	4.0		
All Red	0.0	2.0				1.5	1.5		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	130	1736	2.82	0.08	874.9	F		
TR	2076	5032	1.13	0.41	89.8	F	195.5	F
Westbound								
L	263	3502	0.35	0.08	35.9	D		
T	1474	3574	0.48	0.41	18.4	B	19.7	B
R	660	1599	0.22	0.41	16.0	B		
Northbound								
L	402	3213	0.33	0.13	34.1	C		
T	442	3539	0.26	0.13	33.1	C	34.3	C
R	202	1615	0.35	0.13	36.8	D		
Southbound								
L	433	3467	0.17	0.13	32.1	C		
TR	408	3260	1.05	0.13	94.5	F	85.5	F

Intersection Delay = 134.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

Analyst: BB
Agency: Urbitran
Date: 10/14/2002
Period: PM
Project ID:
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 with RT92 PM Peak Hour

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	799	697	655	10	331	178	37	339	10	30	108	523
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	15.0	31.0					20.0			
Yellow	3.0	5.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Flow	Sat Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound									
L	591	1805		1.50	0.61	264.0	F		
TR	1290	3330		1.16	0.39	107.3	F	165.5	F
Westbound									
L	433	1805		0.03	0.61	11.7	B		
TR	1309	3377		0.43	0.39	19.1	B	18.9	B
Northbound									
LTR	418	1673		1.03	0.25	80.9	F	80.9	F
Southbound									
LT	348	1390		0.44	0.25	29.3	C	196.7	F
R	404	1615		1.44	0.25	240.8	F		

Intersection Delay = 141.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

1.7 2028 Six-Lane Route 1 w/ Signals Removed - AM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/04/02
Period: AM
Project ID:
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	3	0	0	3	0
LGConfig	L	TR		L	T	R		T			T	
Volume	621	371	139	186	490	123		2762			4883	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A	P			SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	21.0					55.0			
Yellow	3.0	4.0					6.0			
All Red	2.0	2.0					1.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	177	1736	3.90	0.32	1349	F		
TR	379	1804	1.49	0.21	275.1	F	865.3	F
Westbound								
L	171	1656	1.21	0.32	168.6	F		
T	384	1827	1.42	0.21	241.8	F	193.4	F
R	308	1468	0.44	0.21	39.0	D		
Northbound								
T	2642	4803	1.16	0.55	99.8	F	99.8	F
Southbound								
T	2743	4988	1.98	0.55	464.0	F	464.0	F

Intersection Delay = 383.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID: Rt 92 Model
E/W St: Rt 522 Promeade

Inter.: Rt 27 & RT522 Promeade
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	1	1	1	1	1	1	1
LGConfig		LT	R	L	T	R	L	T	R	L	T	R
Volume	25	25	25	129	25	304	25	348	212	161	881	25
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	243	952	0.23	0.26	28.7	C	28.1	C
R	236	923	0.12	0.26	26.7	C		
Westbound								
L	343	1342	0.42	0.26	31.6	C		
T	278	1086	0.10	0.26	26.3	C	43.4	D
R	405	1583	0.83	0.26	49.7	D		
Northbound								
L	69	1031	0.41	0.07	44.2	D		
T	1035	1863	0.37	0.56	12.3	B	11.7	B
R	1028	1568	0.23	0.66	6.8	A		
Southbound								
L	119	1787	1.50	0.07	307.5	F		
T	1035	1863	0.95	0.56	36.4	D	76.6	E
R	605	923	0.05	0.66	5.7	A		

Intersection Delay = 50.5 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/05/02
Period: AM
Project ID: Route 92 Model
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				393		10		431	185	98	916	
Lane Width					12.0			12.0			12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	451	1805	0.99	0.25	63.2	E	63.2	E
Northbound								
TR	1157	1780	0.59	0.65	8.2	A	8.2	A
Southbound								
LT	1072	1650	1.05	0.65	52.5	D	52.5	D

Intersection Delay = 41.2 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 12/05/02
Period: AM Peak Hour
Project ID: Route 92 Model
E/W St: Route 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Laurel Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	592	255	36	1186	10	120	312	95	10	225	144
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L				0.50				
TR	861	1722	1.89	0.50	426.8	F		
Westbound								
L	94	188	0.71	0.50	52.5	D		
TR	822	1643	2.74	0.50	806.3	F	784.5	F
Northbound								
LTR	376	1002	2.68	0.38	786.6	F	786.6	F
Southbound								
LTR	598	1594	1.05	0.38	76.2	E	76.2	E

Intersection Delay = (sec/veh) Intersection LOS =

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID: Rt 92 Model
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	1	2	0	1	1	0	1	1	0
LGConfig		T	R	L	TR		L	TR		L	T	
Volume		621	1168	10	1103	445	536	132	10	155	71	
Lane Width		12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
WB Left	A				SB Left	P			
Thru	A	P			Thru	P			
Right	A	P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	27.0				41.0			
Yellow	4.0	4.0				4.0			
All Red	0.0	1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1022	3406	0.68	0.30	31.2	C	552.9	F
R	470	1568	2.76	0.30	830.2	F		
Westbound								
L	159	1787	0.07	0.09	37.8	D		
TR	1463	3377	1.18	0.43	112.1	F	111.6	F
Northbound								
L	587	1289	1.02	0.46	65.5	E		
TR	790	1734	0.20	0.46	15.2	B	55.0-	D
Southbound								
L	563	1236	0.31	0.46	16.9	B		
T	849	1863	0.09	0.46	14.1	B	16.0	B

Intersection Delay = 283.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/04/02
Period: AM
Project ID:
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	212		126				327	852			115	80
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	275	1787	0.86	0.15	54.4	D		
							47.1	D
R	246	1599	0.57	0.15	34.7	C		
Westbound								
Northbound								
L	843	1245	0.43	0.68	6.4	A		
T	1261	1863	0.75	0.68	11.1	B	9.8	A
Southbound								
T	1273	1881	0.10	0.68	3.8	A	3.8	A
R	1082	1599	0.08	0.68	3.7	A		

Intersection Delay = 16.5 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID: Rt 92 Model
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	1	1	0	1	2	0	0	2	0
LGConfig	L		R	L	T		L	T			TR	
Volume	233		110	898	161		62	1744			1621	109
Lane Width	12.0		12.0	12.0	12.0		12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left	P				SB	Left				
Thru	P					Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	13.0						74.0			
Yellow	4.0						5.0			
All Red	2.0						2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	113	867	2.29	0.13	651.9	F		
							460.4	F
R	202	1553	0.60	0.13	53.8	D		
Westbound								
L	228	1752	4.38	0.13	1573	F		
T	242	1863	0.74	0.13	60.2	E	1343	F
Northbound								
L	101	136	0.68	0.74	38.3	D		
T	2190	2959	0.88	0.74	15.5	B	16.3	B
Southbound								
TR	2461	3325	0.78	0.74	10.6	B	10.6	B

Intersection Delay = 329.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID: Rt 92 Model
E/W St: Rt32 Forsgate Dr

Inter.: RT 32 Forsgate Dr & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2002 NB Rt 1 No Signals

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	0	3	0	1	1	1	1	2	0
LGConfig	L	TR			TR		L	T	R	L	TR	
Volume	436	875	157		2586	240	14	389	169	154	1334	67
Lane Width	12.0	12.0			12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	65.0					10.0	28.0		
Yellow	3.0	6.0					4.0	5.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 135.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	118	1597	4.10	0.07	1478	F		
TR	2256	4350	0.51	0.52	22.1	C	454.4	F
Westbound								
TR	2590	4995	1.21	0.52	131.9	F	131.9	F
Northbound								
L	171	1444	0.09	0.32	34.7	C		
T	421	1776	1.03	0.24	102.2	F	87.7	F
R	279	1179	0.67	0.24	59.1	E		
Southbound								
L	183	1597	0.93	0.32	85.1	F		
TR	809	3415	1.92	0.24	471.6	F	433.3	F

Intersection Delay = 274.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/04/02
Period: AM
Project ID:
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 NB Rt1 No Signals

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	212		145				338	939			1262	127
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	278	1668	1.43	0.17	262.2	F	262.2	F
Westbound								
Northbound								
LT	483	1768	2.94	0.76	892.2	F	892.2	F
Southbound								
TR	1214	1868	1.27	0.65	149.5	F	149.5	F

Intersection Delay = 476.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID:
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	255	246	302	7	136	251	512	2133	25	109	1431	295
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	7.0				7.0	40.0		
Yellow	3.0	4.0				3.0	5.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	176	1736	1.61	0.10	333.9	F		
T	163	1845	1.67	0.09	365.0	F	470.8	F
R	142	1599	2.37	0.09	672.0	F		
Westbound								
L	138	1367	0.06	0.10	32.3	C		
T	159	1792	0.95	0.09	95.0	F	469.4	F
R	117	1324	2.38	0.09	684.5	F		
Northbound								
L	157	1770	3.62	0.09	1232	F		
TR	1524	3009	1.57	0.51	280.8	F	463.3	F
Southbound								
L	145	1641	0.83	0.09	67.8	E		
TR	1644	3247	1.17	0.51	101.5	F	99.5	F

Intersection Delay = 347.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID: Rt 92 Model
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			TR	R
Volume	64		10				10	698			581	588
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	719	1770	0.10	0.41	12.0	B		
							11.9	B
R	650	1599	0.02	0.41	11.4	B		
Westbound								
Northbound								
L	169	417	0.07	0.41	12.3	B		
T	702	1727	1.11	0.41	85.6	F	84.6	F
Southbound								
TR	722	1776	0.89	0.41	33.6	C	47.5	D
R	637	1568	1.03	0.41	61.2	E		

Intersection Delay = 59.6 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Schalk's
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Schalk's Crossing

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	1	2	2	1	2	2	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	121	267	23	6	1890	682	490	285	13	145	107	105
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
WB Left	A				SB Left		P		
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	6.0	33.0				10.0	10.0		
Yellow	4.0	4.0				4.0	4.0		
All Red	0.0	2.0				1.5	1.5		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	131	1752	1.02	0.08	121.8	F		
TR	2006	4862	0.16	0.41	15.0	B	46.3	D
Westbound								
L	260	3467	0.03	0.08	34.3	C		
T	1474	3574	1.42	0.41	218.6	F	192.3	F
R	641	1553	1.18	0.41	121.0	F		
Northbound								
L	433	3467	1.26	0.13	168.0	F		
T	426	3406	0.74	0.13	45.0	D	121.3	F
R	200	1599	0.07	0.13	31.6	C		
Southbound								
L	409	3273	0.39	0.13	35.0+	D		
TR	410	3276	0.58	0.13	38.8	D	37.3	D

Intersection Delay = 150.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: AM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	87	232	105	10	1087	34	393	188	10	35	229	1098
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	15.0	31.0					20.0			
Yellow	3.0	5.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	389	1597	0.25	0.61	12.1	B		
TR	1287	3321	0.29	0.39	17.5	B	16.4	B
Westbound								
L	683	1787	0.02	0.61	6.3	A		
TR	1366	3524	0.91	0.39	34.0	C	33.7	C
Northbound								
LTR	145	580	4.53	0.25	1634	F	1634	F
Southbound								
LT	435	1740	0.67	0.25	35.1	D	791.4	F
R	396	1583	3.08	0.25	973.0	F		

Intersection Delay = 595.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

1.8 2028 Six-Lane Route 1 w/ Signals Removed - PM Peak Hour HCS Reports

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/04/02
Period: PM
Project ID:
E/W St: Ridge Rd.

Inter.: Rt1 & Ridge Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Rt 1

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	1	0	3	0	0	3	0
LGConfig	L	TR		L	T	R		T			T	
Volume	667	311	12	300	508	367		3736			2272	
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			0			0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A	P			NB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
WB Left	A	P			SB	Left				
Thru		P				Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	21.0					55.0			
Yellow	3.0	4.0					6.0			
All Red	2.0	2.0					1.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	171	1656	4.33	0.32	1545	F		
TR	384	1827	0.93	0.21	70.9	E	1064	F
Westbound								
L	173	1687	1.92	0.32	472.1	F		
T	391	1863	1.44	0.21	252.6	F	283.0	F
R	329	1568	1.24	0.21	170.8	F		
Northbound								
T	2743	4988	1.51	0.55	255.4	F	255.4	F
Southbound								
T	2691	4893	0.94	0.55	28.8	C	28.8	C

Intersection Delay = 294.4 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: RT 522 Promeade

Inter.: Rt 27 & Promeade Blvd (RT522)
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Rt 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	1	1	1	1	1	1	1
LGConfig		LT	R	L	T	R	L	T	R	L	T	R
Volume	15	15	15	110	15	465	15	612	121	146	174	15
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
WB Left	P				SB	Left	A			
Thru	P					Thru		P		
Right	P					Right	P	P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	23.0						6.0	50.0		
Yellow	4.0						2.0	2.0		
All Red	1.0						1.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	273	1069	0.12	0.26	26.7	C	26.4	C
R	258	1009	0.07	0.26	25.9	C		
Westbound								
L	347	1356	0.35	0.26	30.2	C		
T	304	1188	0.06	0.26	25.7	C	140.7	F
R	409	1599	1.26	0.26	170.6	F		
Northbound								
L	75	1128	0.23	0.07	41.3	D		
T	1045	1881	0.65	0.56	17.1	B	15.8	B
R	1048	1599	0.13	0.66	6.1	A		
Southbound								
L	119	1787	1.36	0.07	249.3	F		
T	1035	1863	0.19	0.56	10.3	B	114.2	F
R	661	1009	0.03	0.66	5.5	A		

Intersection Delay = 78.1 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/05/02
Period: PM
Project ID: Route 92 Model
E/W St: Raymond

Inter.: RT27 & Raymond
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: RT 27

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				263		10		480	164	45	405	
Lane Width					12.0			12.0			12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P			
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		15.0					39.0			
Yellow		2.0					2.0			
All Red		1.0					1.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	450	1801	0.67	0.25	28.1	C	28.1	C
Northbound								
TR	1172	1803	0.61	0.65	8.5	A	8.5	A
Southbound								
LT	1076	1655	0.46	0.65	6.7	A	6.7	A

Intersection Delay = 11.8 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran Garmen
Date: 12/05/02
Period: PM Peak Hour
Project ID: Route 92 Model
E/W St: Route 27

Inter.: Rt 27 / Laurel Ave
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Laurel Avenue

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	10	535	192	47	688	10	307	225	287	10	263	46
Lane Width	12.0	11.0		12.0	9.0			11.0			10.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
WB Left	P				SB	Left	P			
Thru	P					Thru	P			
Right	P					Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	40.0						30.0			
Yellow	4.0						4.0			
All Red	1.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	94	188	0.23	0.50	17.1	B		
TR	860	1720	1.64	0.50	311.5	F	307.0	F
Westbound								
L	94	188	0.93	0.50	92.7	F		
TR	821	1642	1.60	0.50	294.9	F	282.3	F
Northbound								
LTR	368	982	5.21	0.38	1927	F	1927	F
Southbound								
LTR	612	1633	0.88	0.38	40.3	D	40.3	D

Intersection Delay = 861.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: Rt 522

Inter.: Rt 522 & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	1	2	0	1	1	0	1	1	0
LGConfig		T	R	L	TR		L	TR		L	T	
Volume		1253	474	10	135	38	186	1022	10	170	107	
Lane Width		12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	P			
Thru		P				Thru	P			
Right		P				Right	P			
Peds						Peds				
WB Left	A	P			SB	Left	P			
Thru	A	P				Thru	P			
Right	A	P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	27.0					41.0			
Yellow	4.0	4.0					4.0			
All Red	0.0	1.0					1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1072	3574	1.30	0.30	172.8	F	159.1	F
R	457	1524	1.15	0.30	122.8	F		
Westbound								
L	243	1787	0.05	0.43	18.7	B		
TR	1442	3328	0.13	0.43	15.4	B	15.6	B
Northbound								
L	487	1069	0.43	0.46	19.2	B		
TR	779	1711	1.47	0.46	244.1	F	209.7	F
Southbound								
L	81	178	2.33	0.46	661.2	F		
T	832	1827	0.14	0.46	14.6	B	411.4	F

Intersection Delay = 190.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/04/02
Period: PM
Project ID:
E/W St: George Rd.

Inter.: George Rd. & Kingston Ln.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Kingston Ln.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	1
LGConfig	L		R				L	T			T	R
Volume	152		53				317	368			281	263
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	10.0						44.0			
Yellow	3.0						4.0			
All Red	2.0						2.0			

Cycle Length: 65.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	275	1787	0.61	0.15	35.6	D		
							33.2	C
R	246	1599	0.24	0.15	26.5	C		
Westbound								
Northbound								
L	692	1023	0.51	0.68	7.8	A		
T	1237	1827	0.33	0.68	5.1	A	6.4	A
Southbound								
T	1261	1863	0.25	0.68	4.5	A	4.7	A
R	1082	1599	0.27	0.68	4.8	A		

Intersection Delay = 9.6 (sec/veh) Intersection LOS = A

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: Friendship Rd.

Inter.: US 130 & Friendship Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	1	0	1	1	0	0	1	1
LGConfig		LR		L	T		L	T			T	R
Volume	202		151	801	54		18	1492			1897	72
Lane Width		12.0		12.0	12.0		12.0	12.0			12.0	12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left	P				SB	Left				
Thru	P					Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	13.0						74.0			
Yellow	4.0						5.0			
All Red	2.0						2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	177	1360	2.21	0.13	608.1	F	608.1	F
Westbound								
L	217	1671	4.10	0.13	1450	F		
T	242	1863	0.25	0.13	41.5	D	1361	F
Northbound								
L	104	141	0.19	0.74	8.0	A		
T	1162	1570	1.43	0.74	210.1	F	207.7	F
Southbound								
T	1290	1743	1.63	0.74	301.9	F	291.0	F
R	1171	1583	0.07	0.74	3.7	A		

Intersection Delay = 483.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: RT 32 Forsgate Dr

Inter.: RT 32 Forsgate Dr & CR 535
Area Type: All other areas
Jurisd: Middlesex Co, NJ
Year : 2028 NB Rt 1 No Signals

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	0	3	0	1	1	1	1	2	0
LGConfig	L	TR			TR		L	T	R	L	TR	
Volume	467	1530	111		1423	60	10	245	364	272	926	146
Lane Width	12.0	13.0			12.0		12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
WB Left					SB	Left	A	P		
Thru		P				Thru		P		
Right		P				Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	65.0					10.0	28.0		
Yellow	3.0	6.0					4.0	5.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 135.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	120	1626	4.32	0.07	1578	F		
TR	2624	5060	0.69	0.52	26.0	C	369.9	F
Westbound								
TR	2508	4836	0.66	0.52	25.1	C	25.1	C
Northbound								
L	187	1641	0.06	0.32	34.5	C		
T	421	1776	0.65	0.24	53.9	D	113.0	F
R	345	1455	1.17	0.24	155.0	F		
Southbound								
L	251	1736	1.20	0.32	172.2	F		
TR	807	3405	1.48	0.24	272.3	F	252.1	F

Intersection Delay = 220.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/04/02
Period: PM
Project ID:
E/W St: Dey Rd

Inter.: Dey Rd & CR 535
Area Type: All other areas
Jurisd: Middlesex County, NJ
Year : 2028 NB Route 1 No Signals

N/S St: CR 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Volume	242		239				91	697			901	291
Lane Width		12.0						14.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	P		
Thru						Thru	A	P		
Right	A					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru		P		
Right						Right		P		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						10.0	74.0		
Yellow	4.5						3.0	5.0		
All Red	2.0						0.0	1.5		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	283	1695	1.89	0.17	463.8	F	463.8	F
Westbound								
Northbound								
LT	723	1855	1.21	0.76	121.7	F	121.7	F
Southbound								
TR	1155	1777	1.15	0.65	97.4	F	97.4	F

Intersection Delay = 176.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: Dey Rd.

Inter.: US 130 & Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: US 130

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	1	2	0	1	2	0
LGConfig	L	T	R	L	T	R	L	TR		L	TR	
Volume	506	219	138	156	63	150	18	1890	10	182	1669	160
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	7.0				7.0	40.0		
Yellow	3.0	4.0				3.0	5.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 79.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	176	1736	3.19	0.10	1037	F		
T	167	1881	1.46	0.09	270.8	F	698.5	F
R	142	1599	1.08	0.09	133.7	F		
Westbound								
L	176	1736	0.98	0.10	98.1	F		
T	163	1845	0.43	0.09	42.2	D	150.5	F
R	121	1369	1.38	0.09	250.2	F		
Northbound								
L	152	1719	0.13	0.09	33.6	C		
TR	1522	3006	1.39	0.51	197.8	F	196.2	F
Southbound								
L	149	1687	1.36	0.09	233.4	F		
TR	1647	3252	1.23	0.51	130.2	F	139.5	F

Intersection Delay = 254.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: Plainsboro Rd.

Inter.: Rt 535 & Plainsboro Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Rt 535

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	281		10				10	191			619	293
Lane Width	12.0		12.0				12.0	12.0			12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	P				NB	Left	P			
Thru						Thru	P			
Right	P					Right				
Peds						Peds				
WB Left					SB	Left				
Thru						Thru	P			
Right						Right	P			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	26.0						26.0			
Yellow	4.0						4.0			
All Red	2.0						2.0			

Cycle Length: 64.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	719	1770	0.43	0.41	15.6	B		
							15.5	B
R	650	1599	0.02	0.41	11.4	B		
Westbound								
Northbound								
L	117	289	0.09	0.41	13.3	B		
T	728	1792	0.29	0.41	13.8	B	13.8	B
Southbound								
TR	683	1682	1.48	0.41	244.9	F	244.9	F

Intersection Delay = 164.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Schalk's
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Schalk's Crossing

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	3	0	2	2	1	2	2	1	2	2	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	237	2075	285	77	684	173	106	86	69	276	202	70
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
WB Left	A				SB Left		P		
Thru		P			Thru		P		
Right		P			Right		P		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	6.0	33.0				10.0	10.0		
Yellow	4.0	4.0				4.0	4.0		
All Red	0.0	2.0				1.5	1.5		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	130	1736	2.02	0.08	523.3	F		
TR	2062	4999	1.27	0.41	149.9	F	183.9	F
Westbound								
L	260	3467	0.33	0.08	35.8	D		
T	1460	3539	0.52	0.41	18.9	B	19.9	B
R	647	1568	0.30	0.41	16.9	B		
Northbound								
L	398	3183	0.30	0.13	33.7	C		
T	442	3539	0.22	0.13	32.6	C	34.4	C
R	200	1599	0.38	0.13	37.7	D		
Southbound								
L	421	3367	0.73	0.13	44.3	D		
TR	425	3401	0.71	0.13	43.3	D	43.8	D

Intersection Delay = 121.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

HCS2000: Signalized Intersections Release 4.1c

Analyst: MRM
Agency: Urbitran
Date: 12/08/02
Period: PM
Project ID: Rt 92 Model
E/W St: Scudder's Mill Rd.

Inter.: Scudder's Mill Rd.& Dey Rd.
Area Type: All other areas
Jurisd: Middlesex Co., NJ
Year : 2028 NB Rt 1 No Signals

N/S St: Dey Rd.

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	1
LGConfig	L	TR		L	TR			LTR			LT	R
Volume	1023	735	663	10	296	246	10	445	10	32	88	628
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A	P			NB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
WB Left	A	P			SB Left	P			
Thru		P			Thru	P			
Right		P			Right	P			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	15.0	31.0				20.0			
Yellow	3.0	5.0				4.0			
All Red	0.0	1.0				1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	564	1770	2.02	0.61	475.2	F		
TR	1280	3304	1.21	0.39	128.2	F	274.8	F
Westbound								
L	429	1787	0.03	0.61	11.7	B		
TR	1277	3295	0.47	0.39	19.6	B	19.5	B
Northbound								
LTR	461	1843	1.12	0.25	108.7	F	108.7	F
Southbound								
LT	298	1190	0.45	0.25	30.2	C	319.9	F
R	400	1599	1.75	0.25	375.5	F		

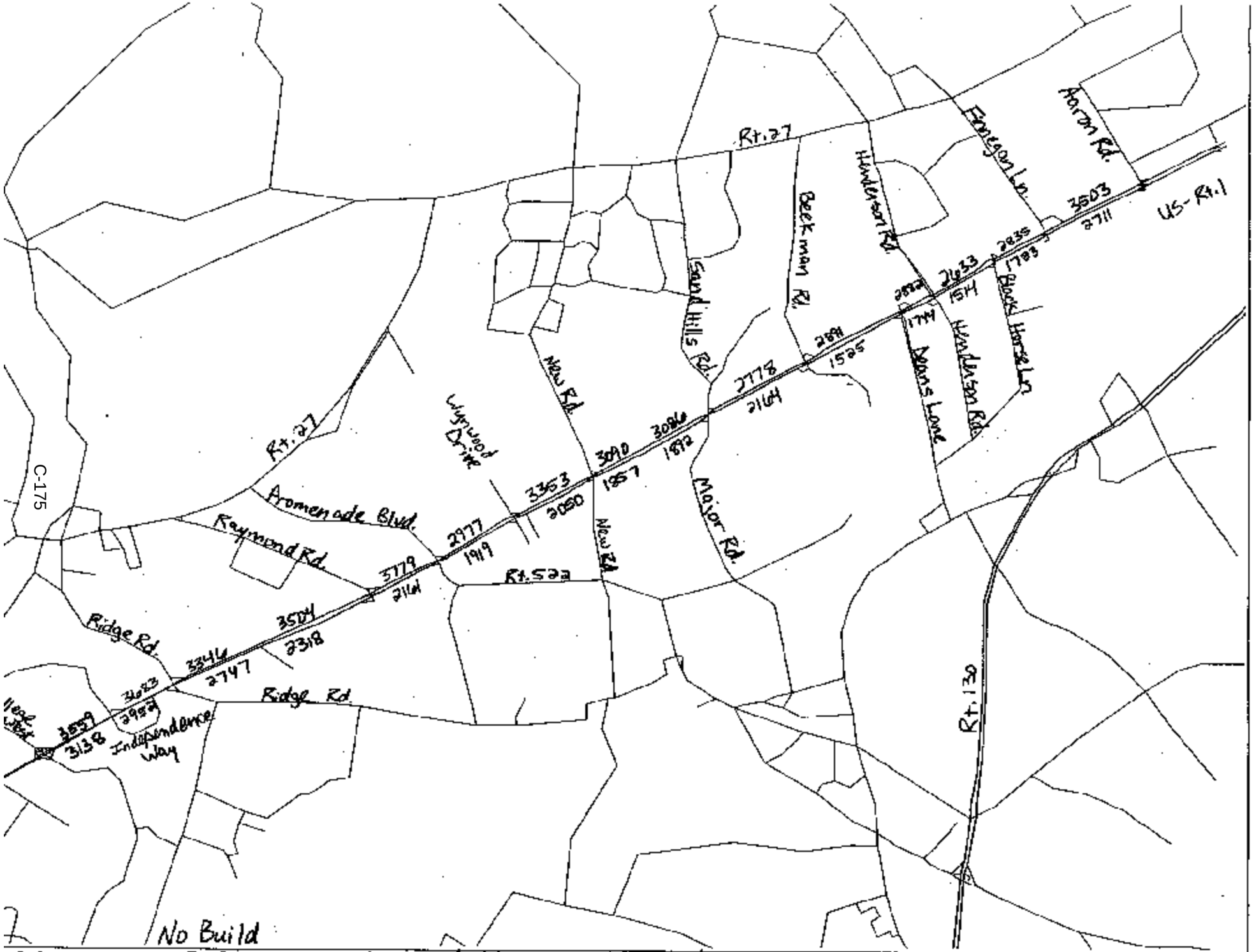
Intersection Delay = 230.8 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

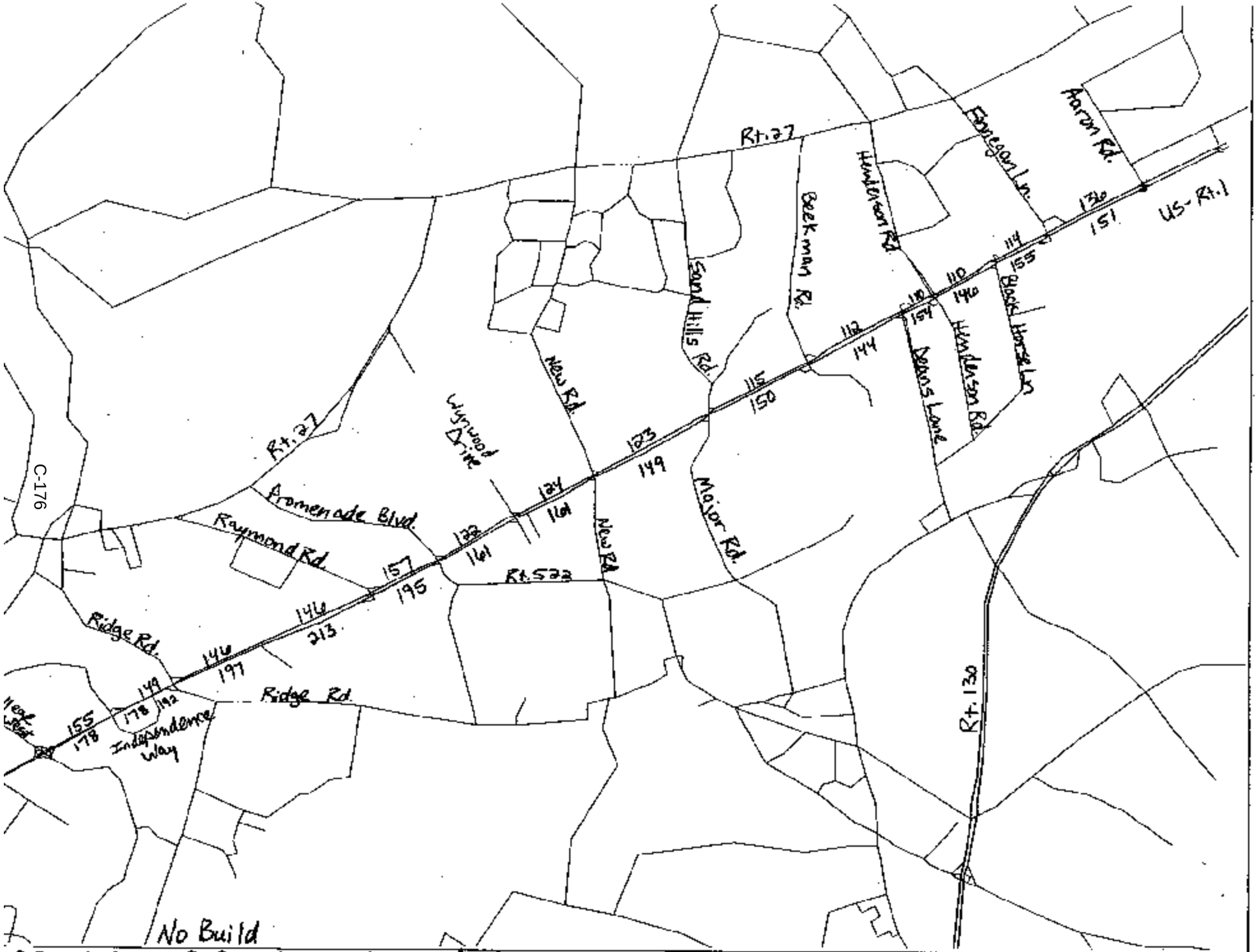
2.0 Average AM and PM Speeds and Volumes

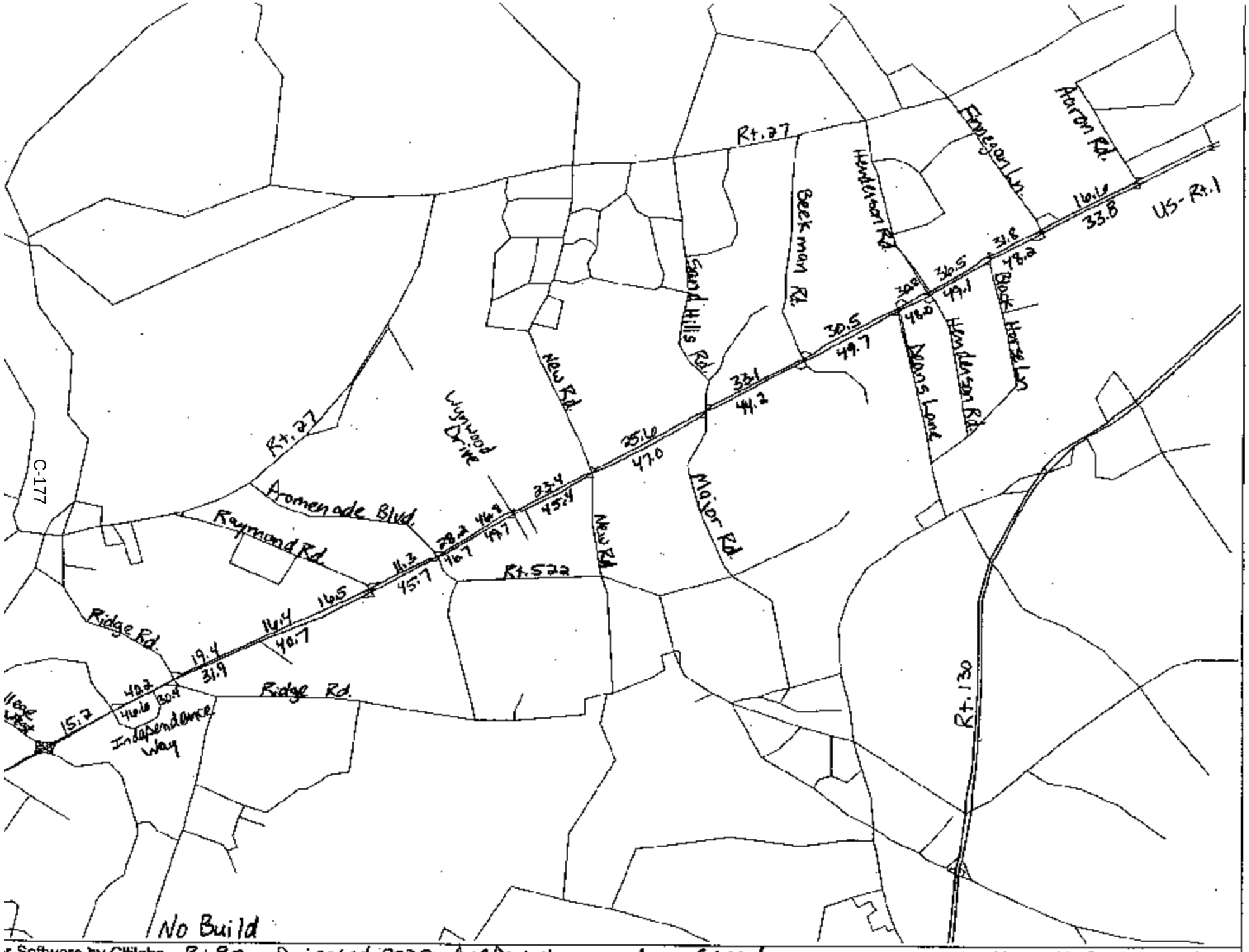
For the purpose of CDM's air quality analysis of proposed scenarios, Urbitran Associates generated average volume and speed data for a number of links for both AM and PM peak periods. For the 2028 No Build scenario, volumes and speeds are included along Route 1 between College Rd. and Aaron Rd., as well as for the intersection approaches at Rt. 32/Rt. 535, Rt. 535/Dey Rd., Rt. 130/Dey Rd., and Rt. 522/Kingston Rd. For the Build Route 92 Scenario, average volumes and speeds are provided for the intersection approaches described above, plus in detail along the proposed Route 92 including all entrance and exit ramps. Air quality analyses were also performed for two Route 1 alternatives. Hence, Urbitran documented average mid-block volumes and speeds along Route 1 from College Rd. to Aaron Rd. for the 6-Lane Route 1 scenario. Mid-block volumes and speeds are also provided for the 6-Lane Route 1 with Signals Removed scenario between College Rd. and Route 130, plus details at crossing streets where grade-separated interchanges or overpasses would be constructed under this scenario. These crossing streets include Rt. 522 (Promenade Blvd), New Rd., Sand Hills Rd./Major Rd., Beekman Rd./Northumberland Rd., Finnegan Lane, and Cozzens Lane/Adams Lane.

2.1 2028 No Build – Route 1 Mid-Block (College Rd. to Aaron Rd.)



r Software by Citilabs Rt. 92 – Projected 2028 AM Peak Hour Auto Volumes Licensed to Garmen Associates


Rt. 27
Aaron Rd.
Bangor Ln.
Henderson Rd.
Beekman Rd.
Sand Hills Rd.
New Rd.
Wynwood Drive
Promenade Blvd.
Raymond Rd.
Rt. 523
Major Rd.
Dennis Lane
Henderson Rd.
Black Horse Ln.
US-Rt. 1
Rt. 130
Ridge Rd.
Independence Way
No Build
Rt. 92 - Projected 2028 AM Peak Hour Truck Volumes
Software by Citilabs
Licensed to Garmen Associates



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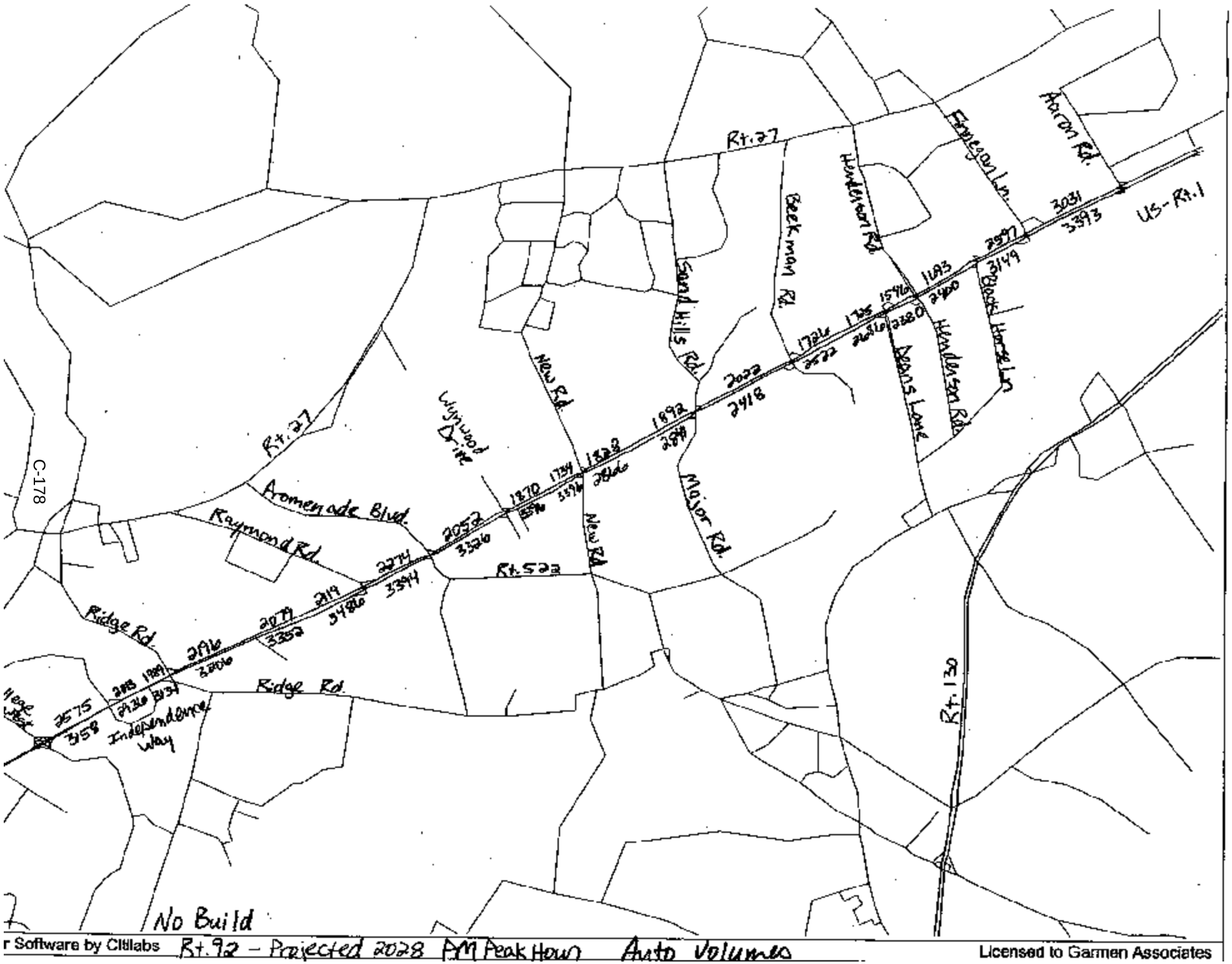

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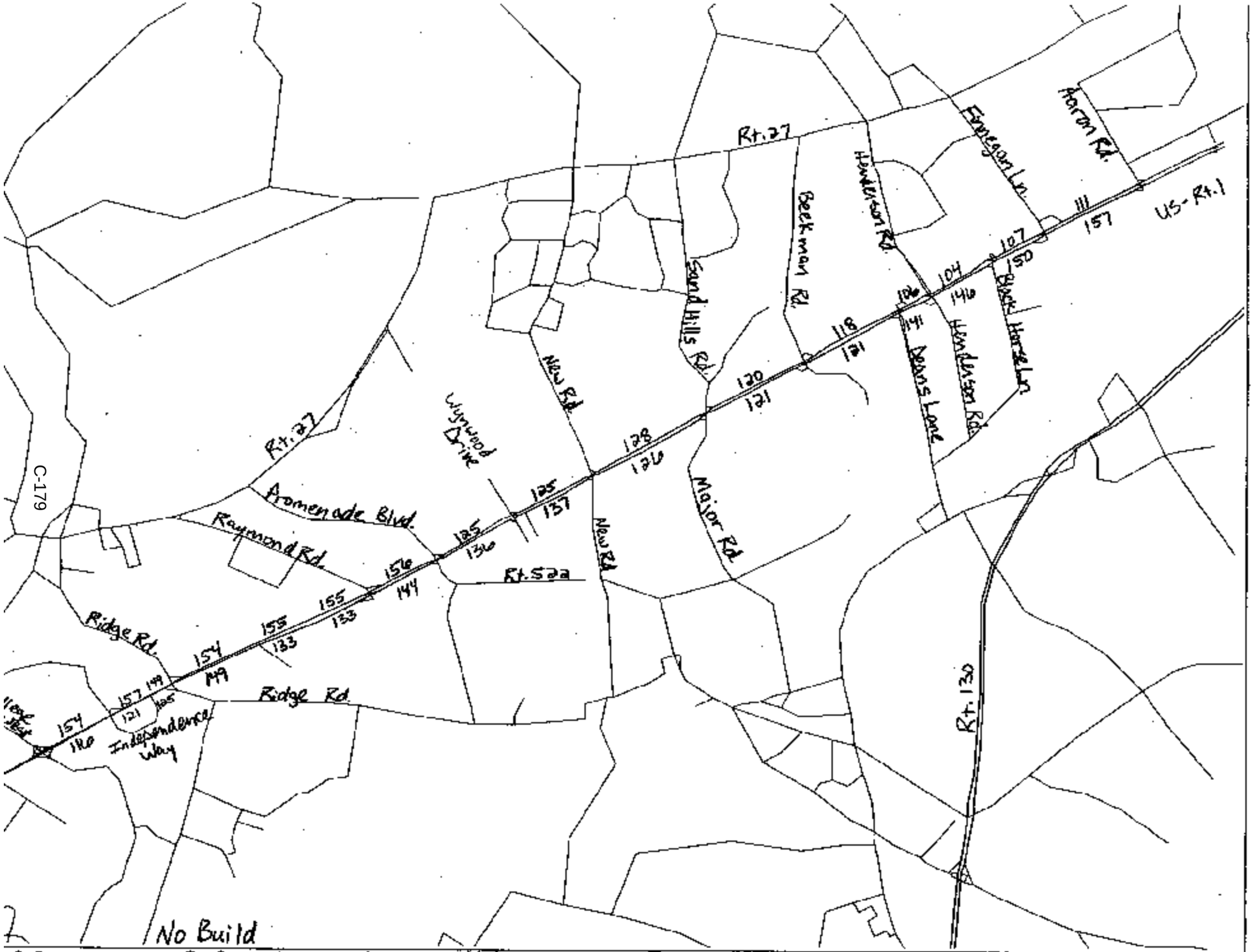
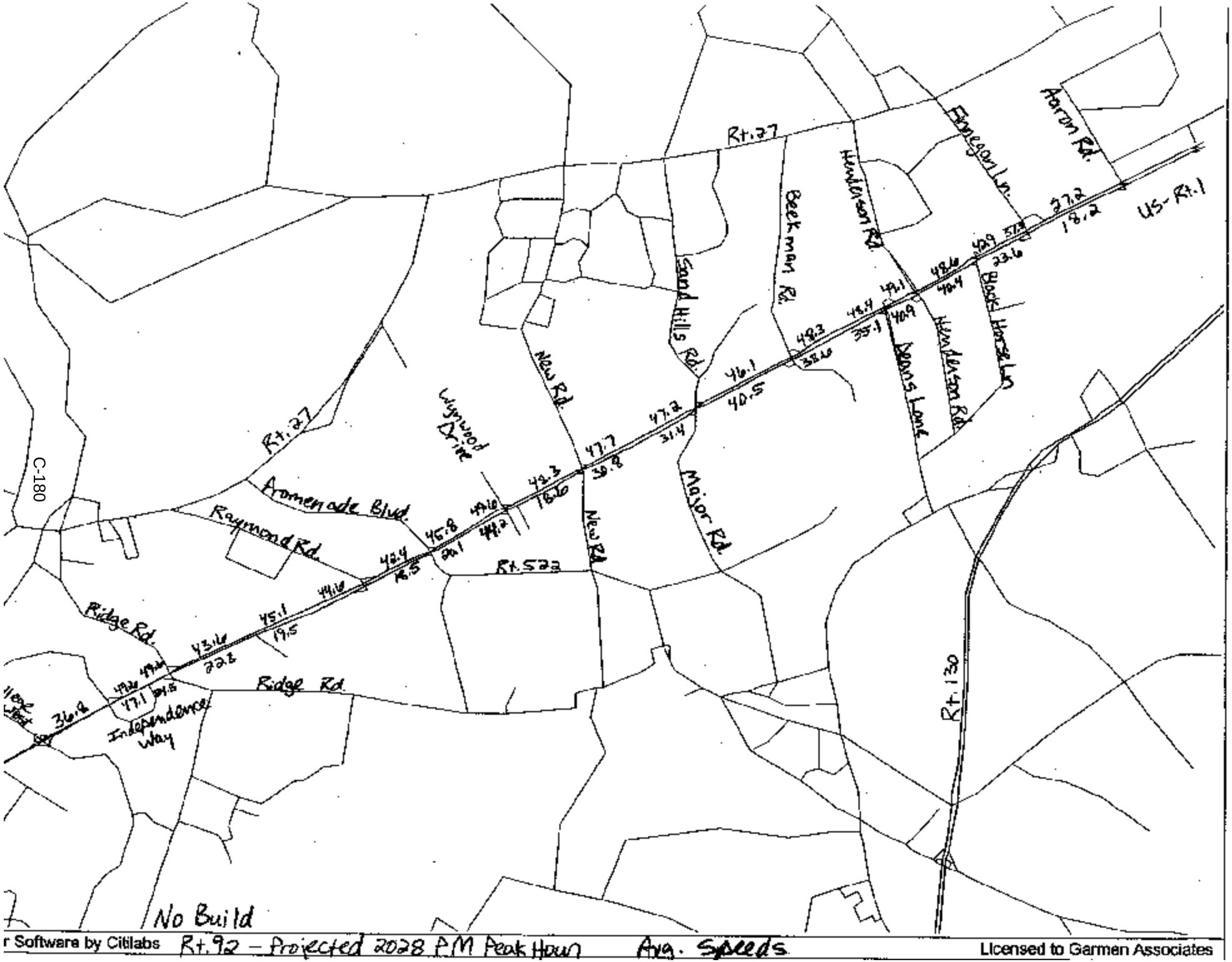
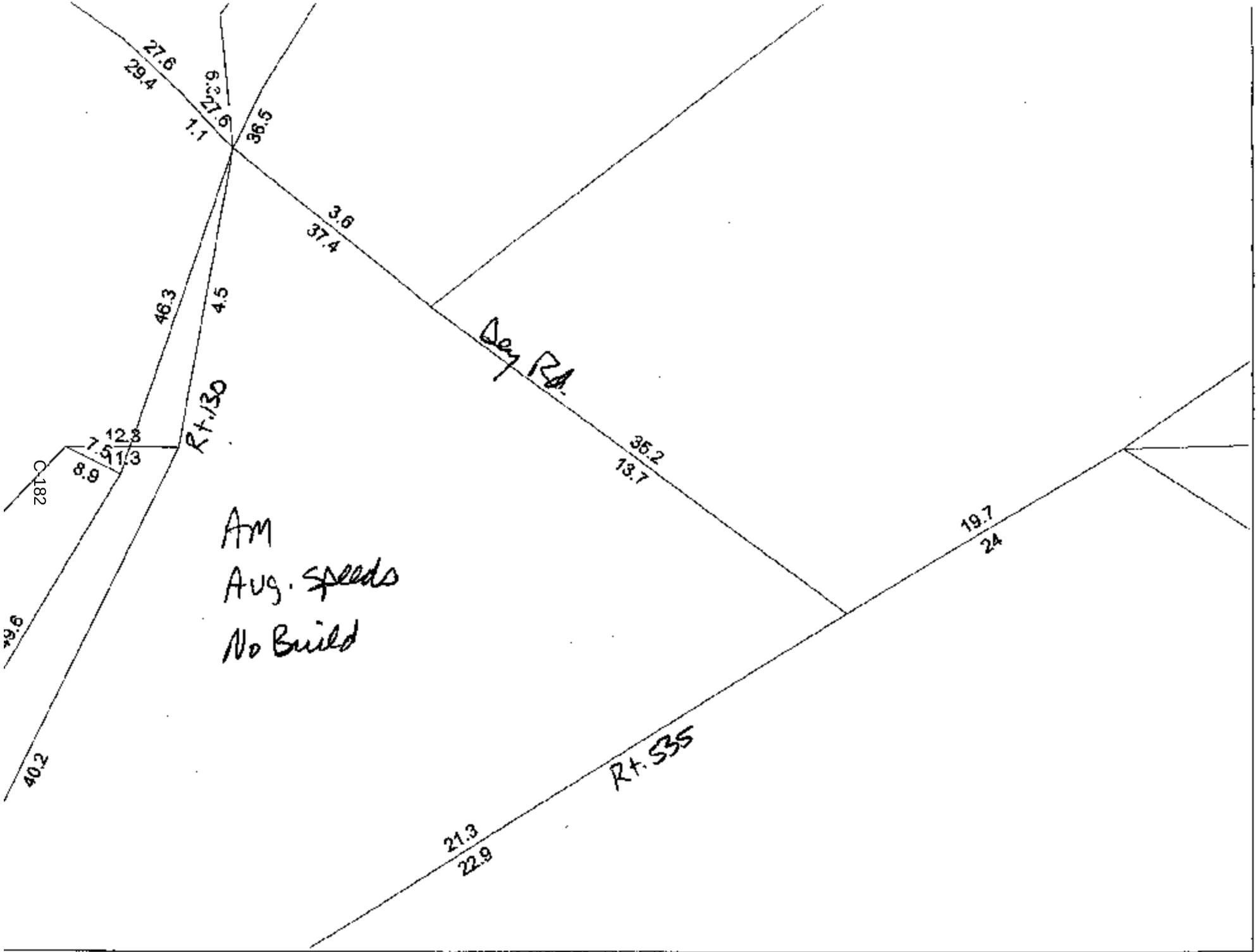


Software by Citilabs Rt.92 - Projected 2028 PM Peak Hour Truck Volumes Licensed to Garmen Associates


Rt.27
Aaron Rd.
Finnegan Ln.
Henderson Rd.
Beckman Rd.
Sand Hills Rd.
US-Rt.1
Black Horse Ln
Henderson Rd.
Adams Lane
New Rd.
Major Rd.
Wayswood Drive
Rt.27
Promenade Blvd.
Raymond Rd.
Rt.523
New Rd.
Ridge Rd.
Ridge Rd.
Independence Way
Rt.130
No Build
Software by Citilabs
Rt.92 – Projected 2028 PM Peak Hour Avg. Speeds
Licensed to Garmen Associates

2.2 2028 No Build – Four Intersections



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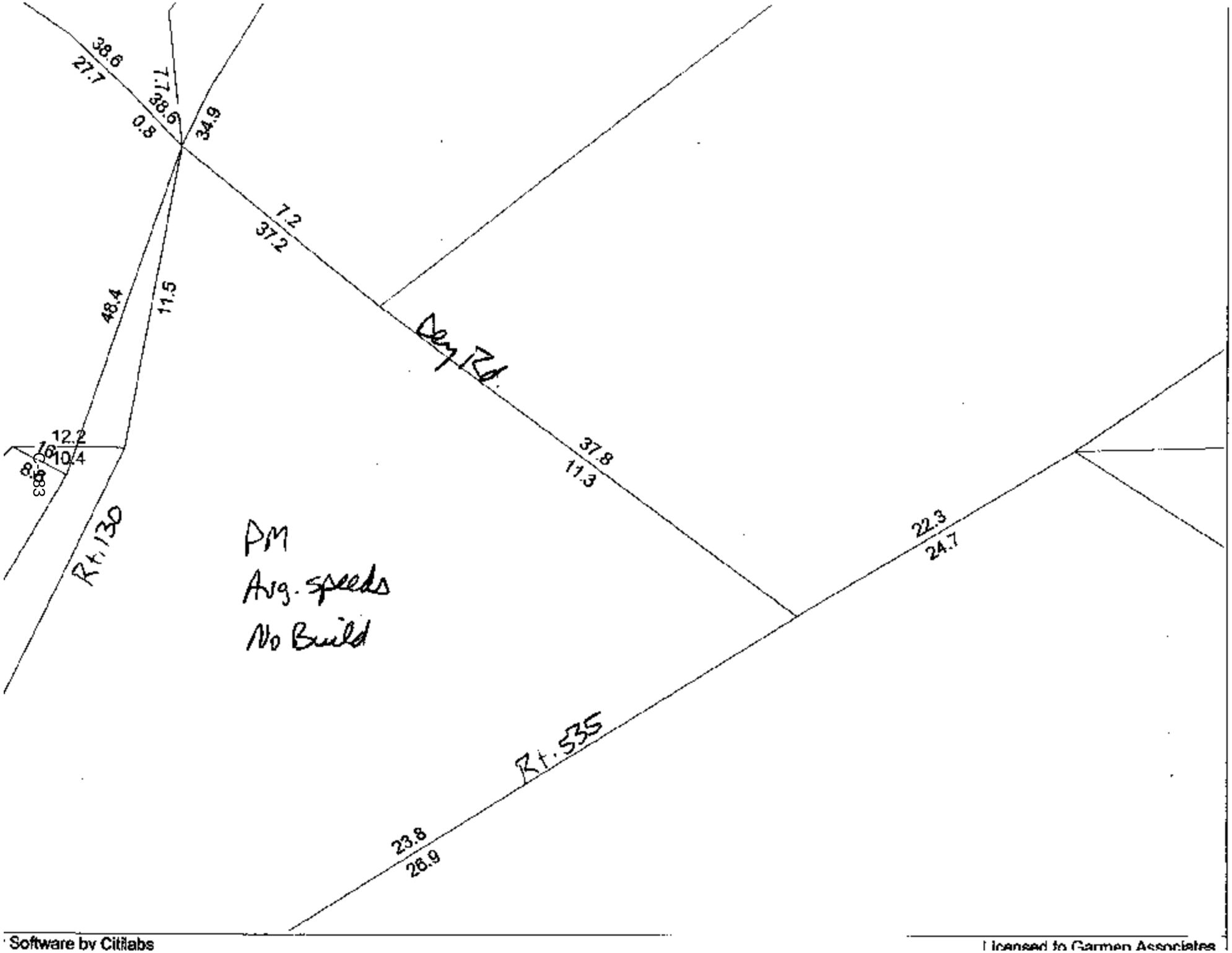
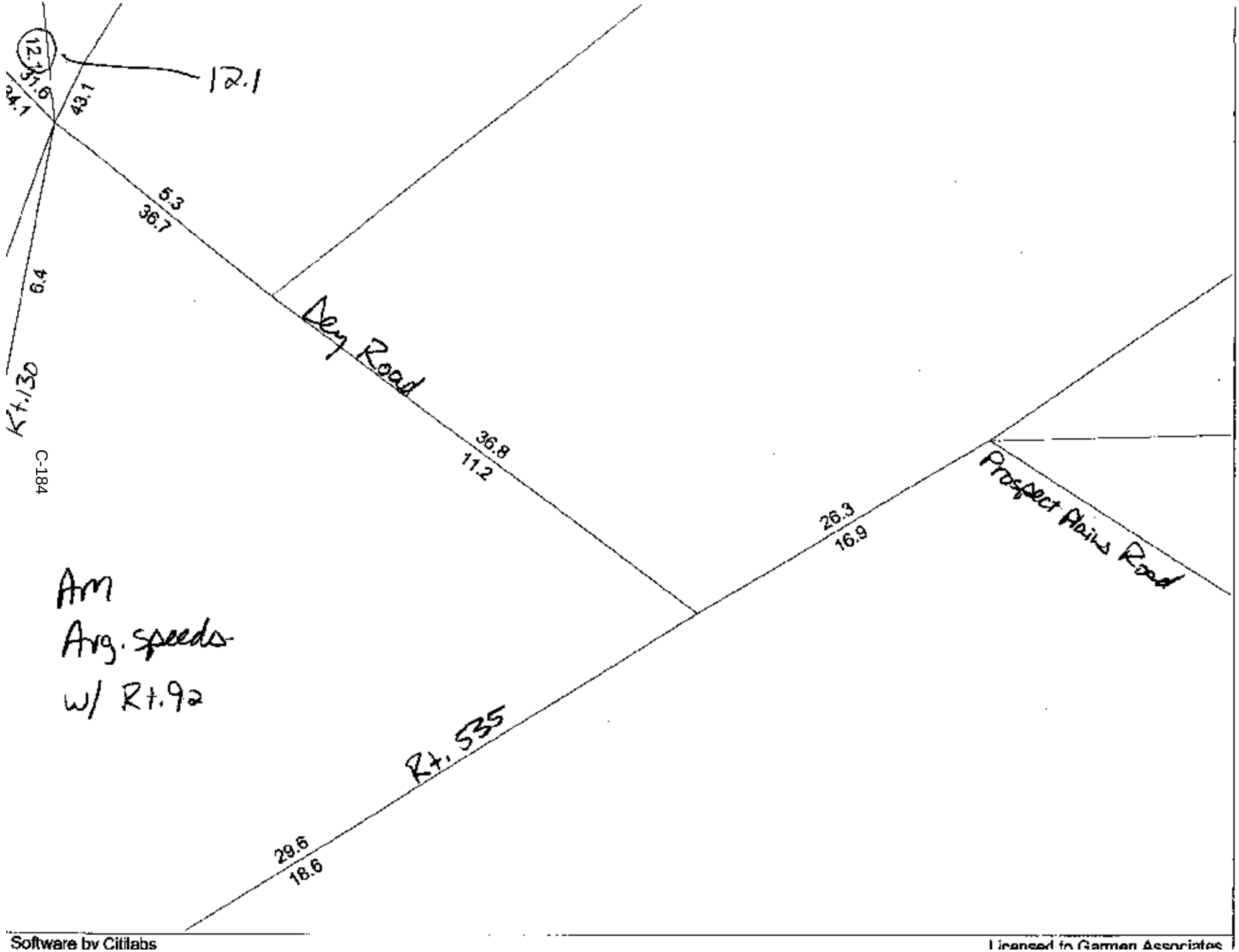

38.6
27.7
7.1
38.6
0.8
34.9
7.2
37.2
48.4
11.5
Dey Rd.
12.2
10.4
8.8
83
Rt. 130
37.8
11.3
22.3
24.7
PM
Avg. speeds
No Build
Rt. 535
23.8
26.9



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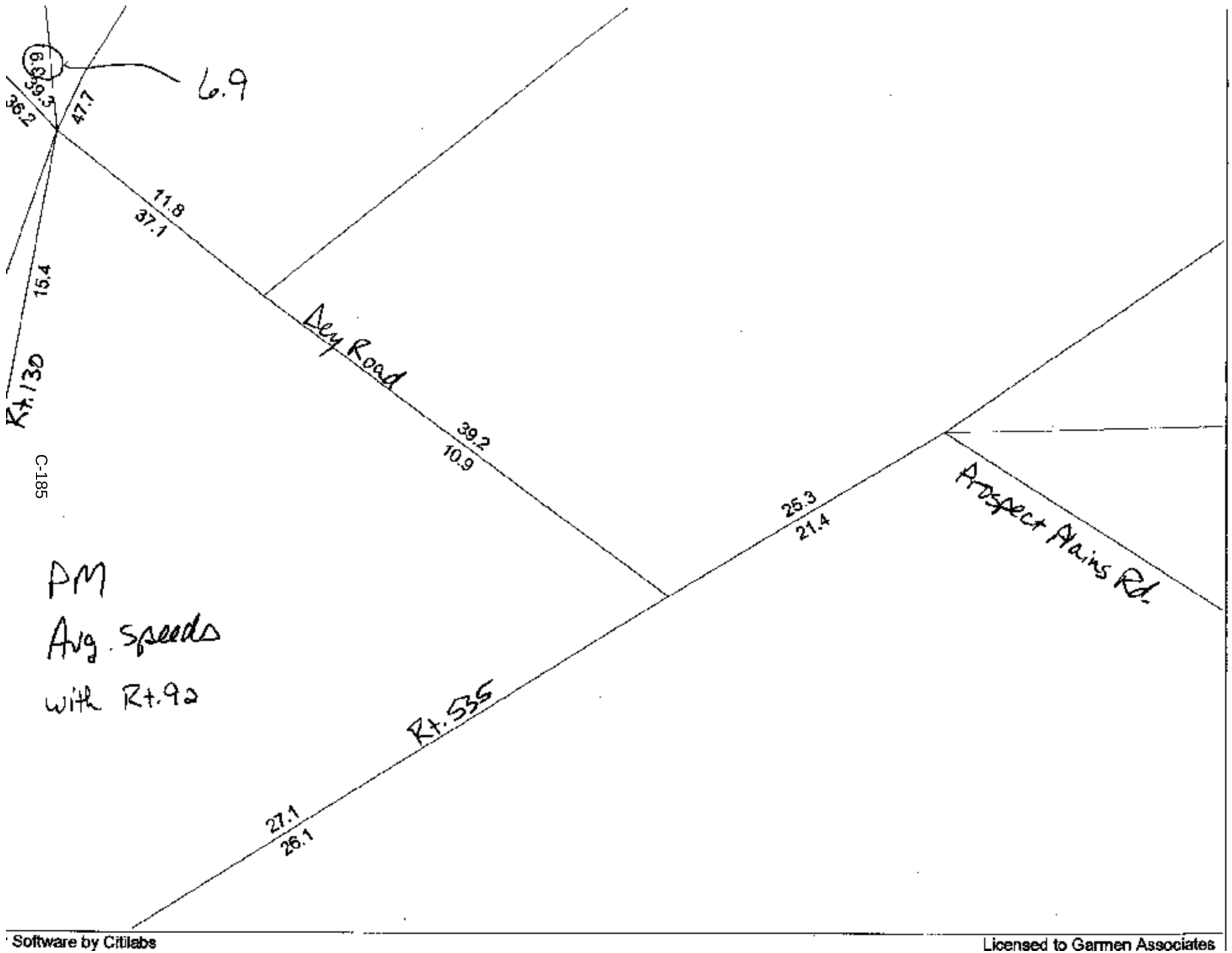

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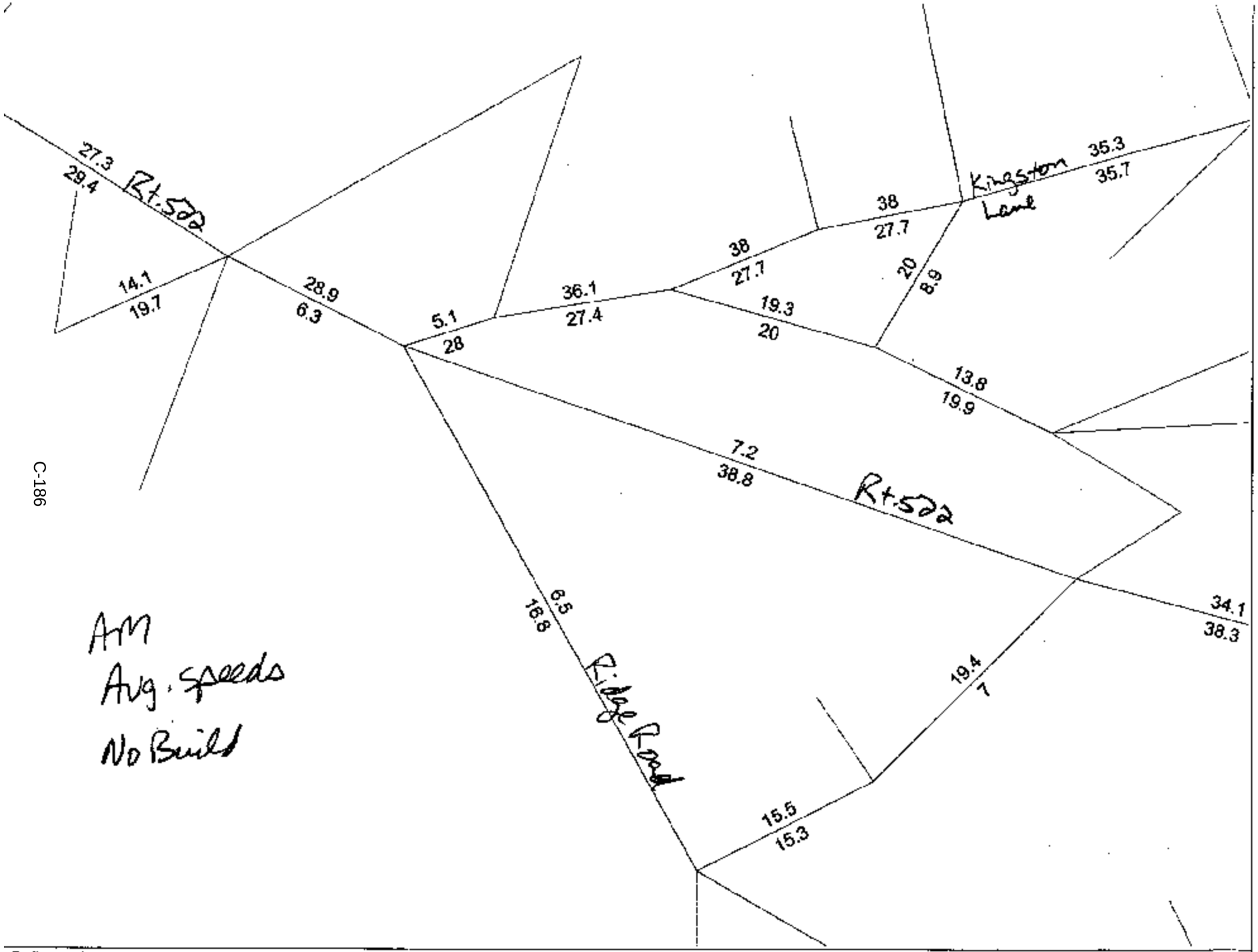

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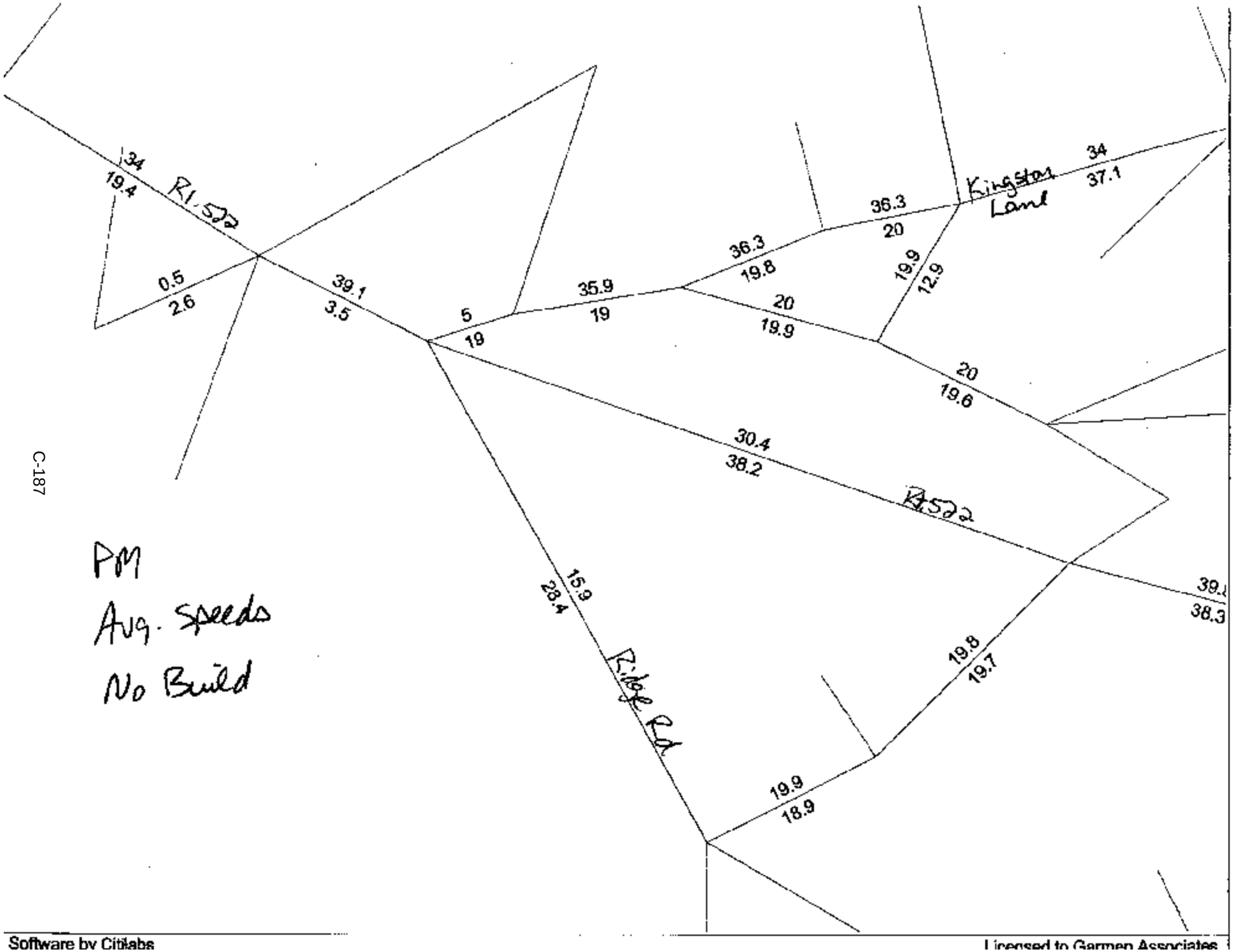
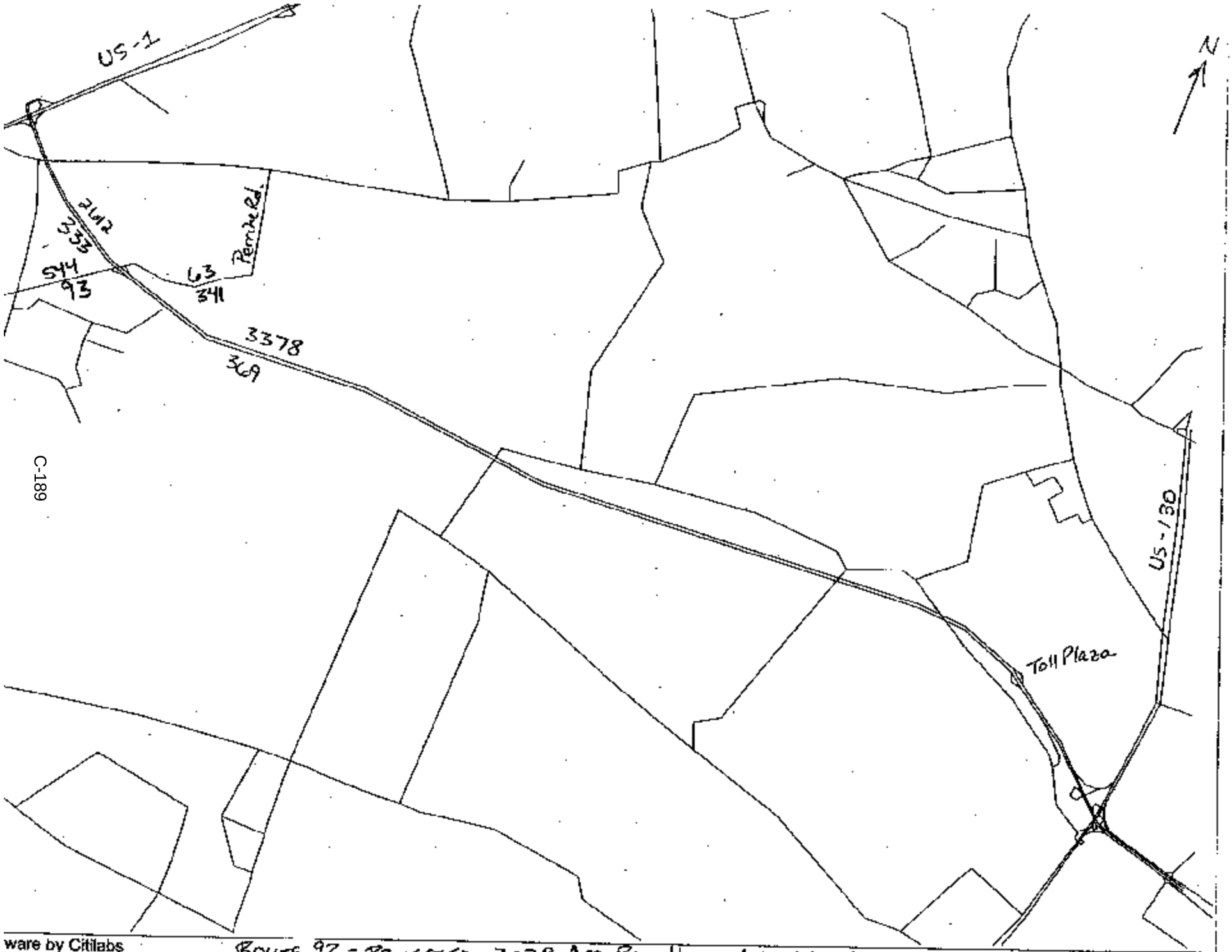


Software by Citilabs
Licensed to Garmen Associates

2.3 2028 Build Route 92 – Detail along Route 92 Alignment



ware by Citilabs

ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Auto Volumes

Licensed to Garmen Associates

ware by Citilabs

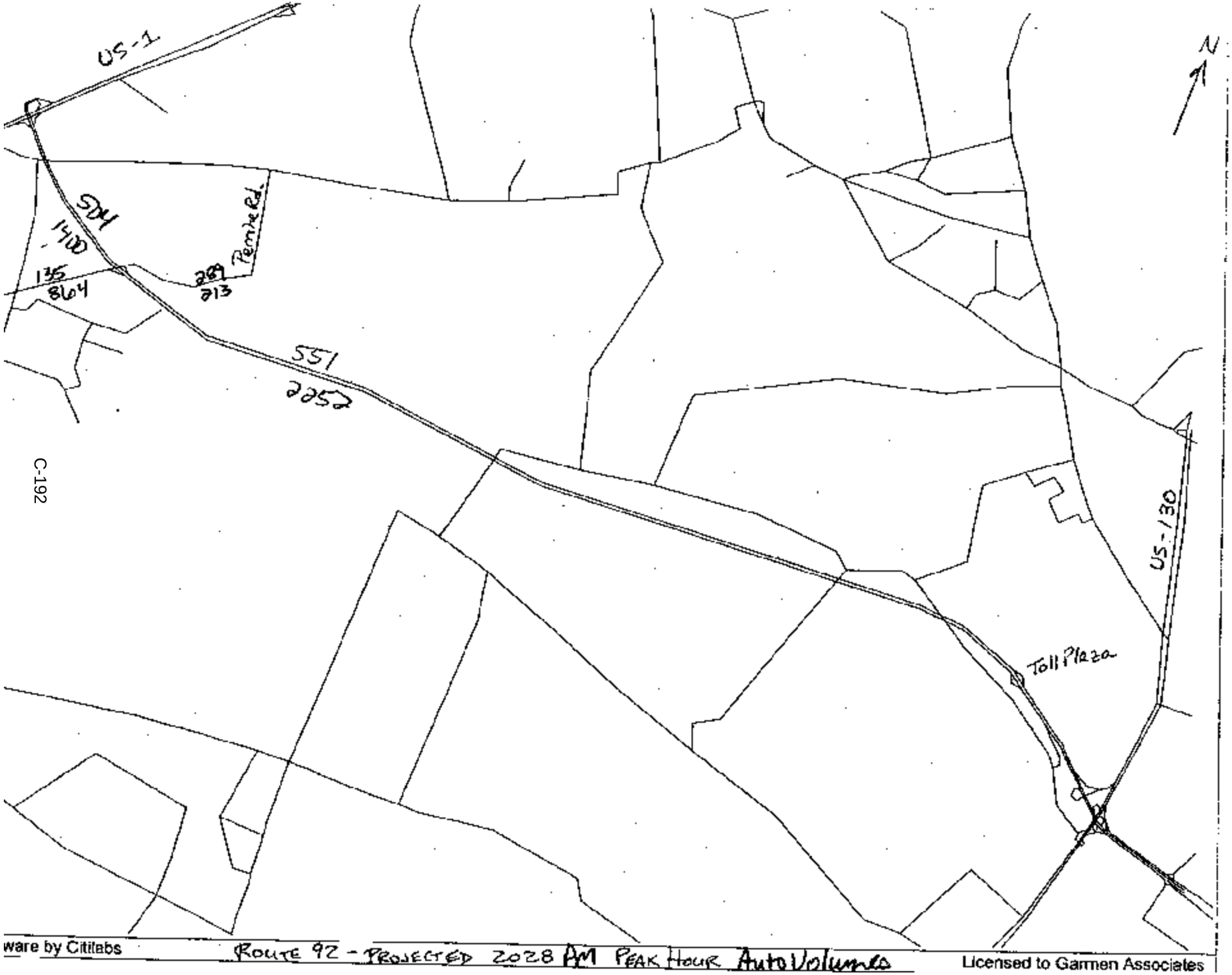
ROUTE 92 - PROJECTED 2028 AM PEAK HOUR TRUCK VOLUMES

Licensed to Garmen Associates

ware by Citilabs

ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Avg. Speeds (mph)

Licensed to Garmen Associates



ware by Citilabs

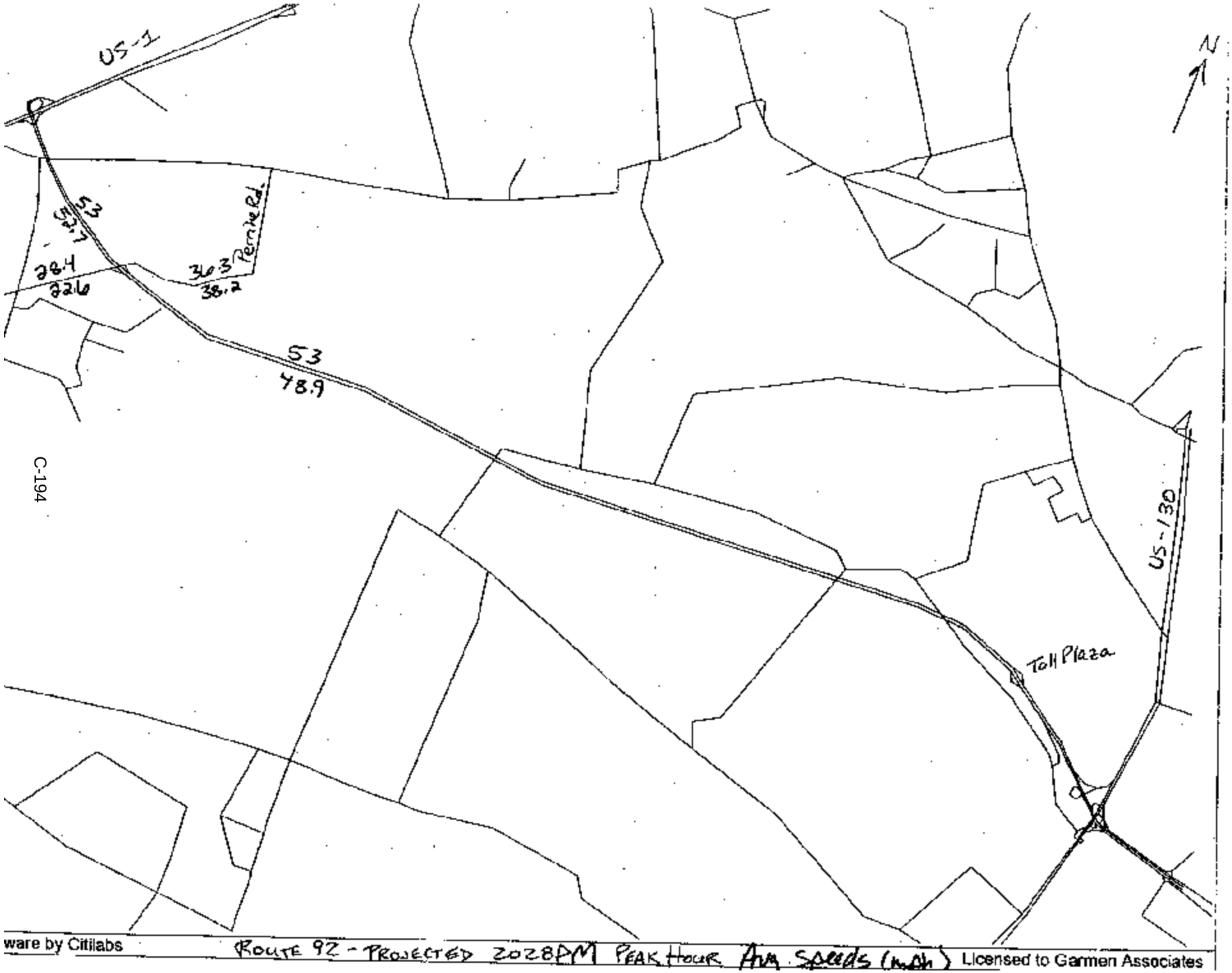
ROUTE 92 - PROJECTED 2028 AM PEAK HOUR AutoVolumes

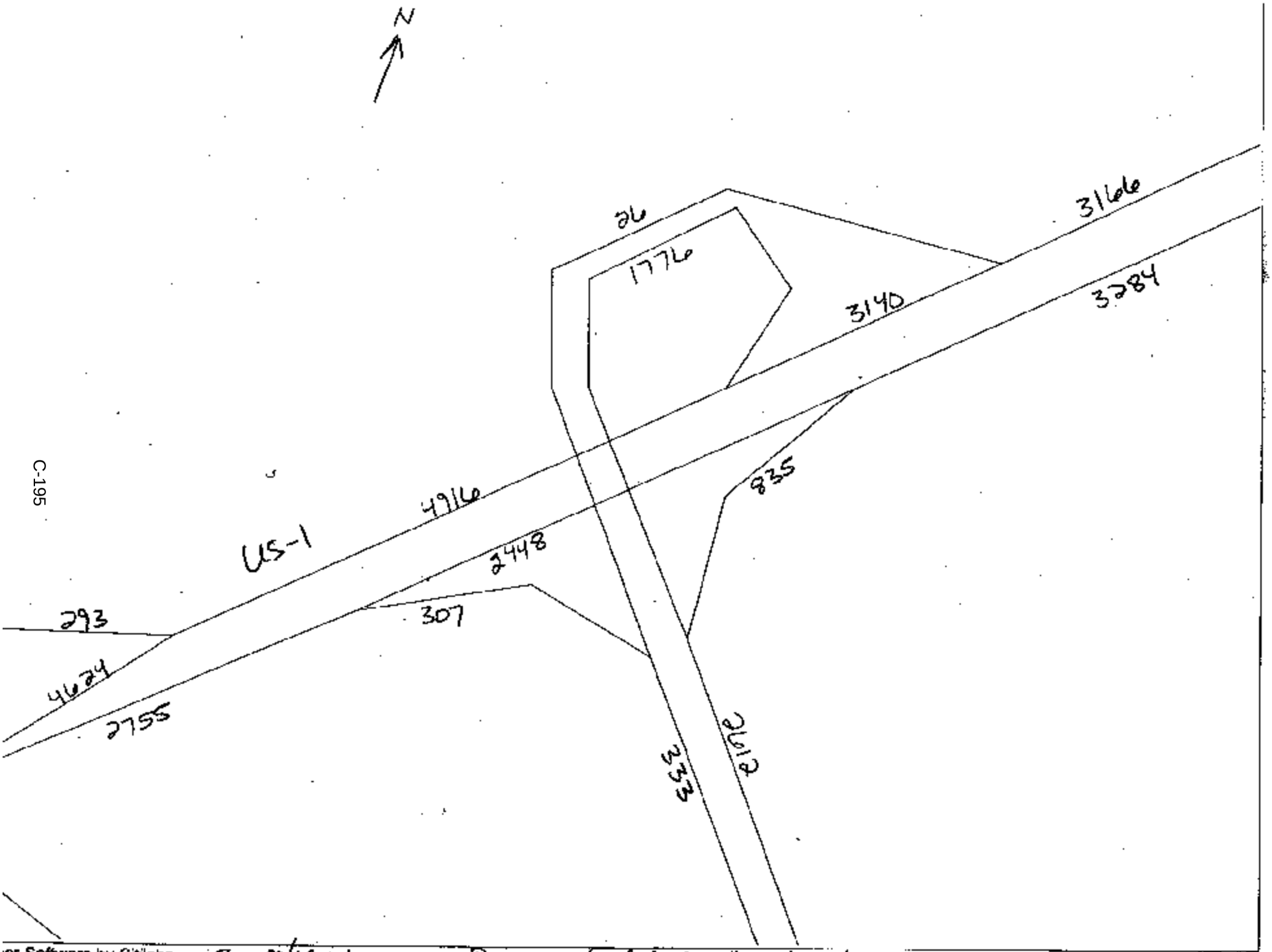
Licensed to Garmen Associates

ware by Citilabs

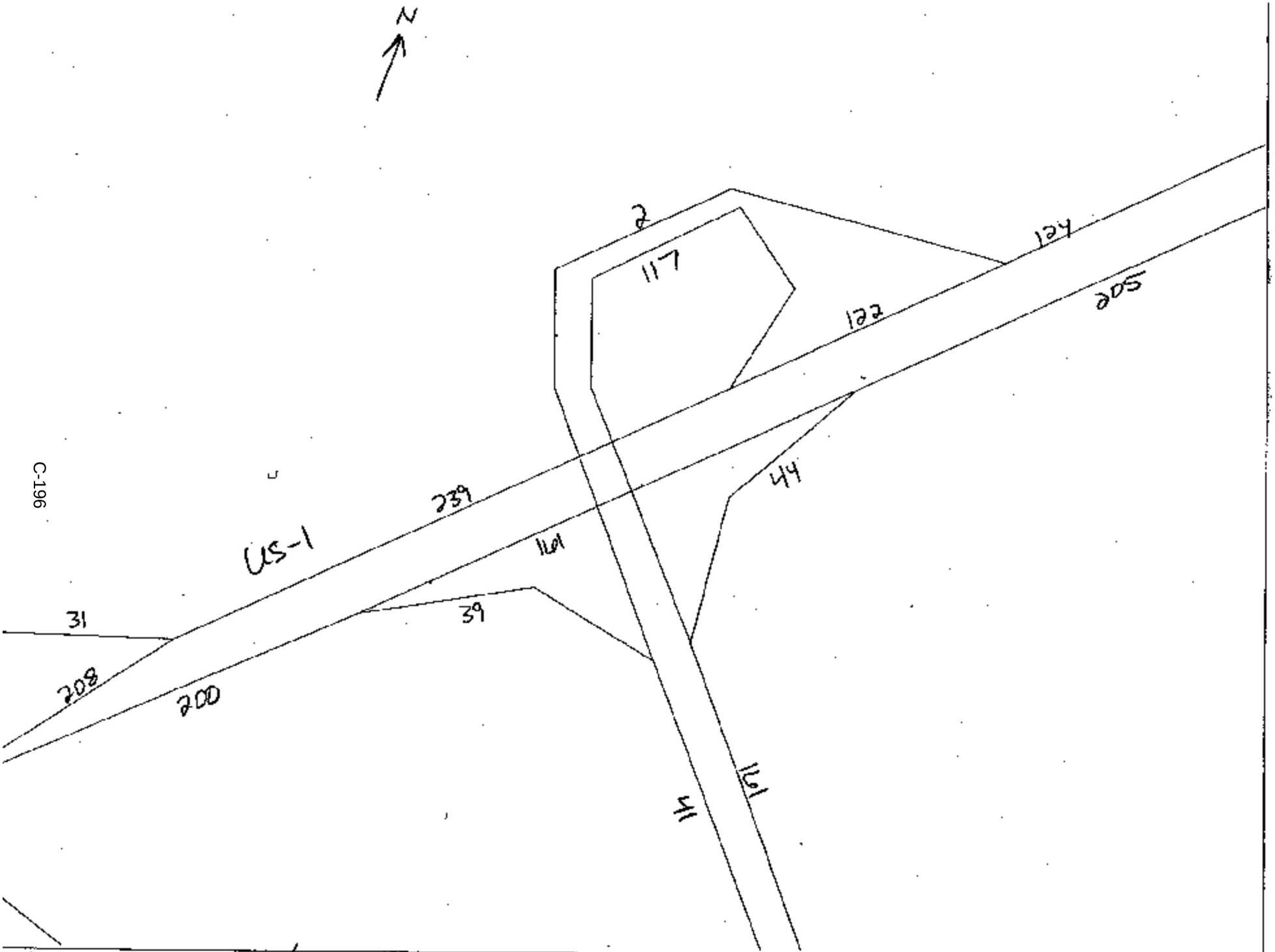
ROUTE 92 - PROJECTED 2028 AM PEAK HOUR TRUCK VOLUMES

Licensed to Garmen Associates

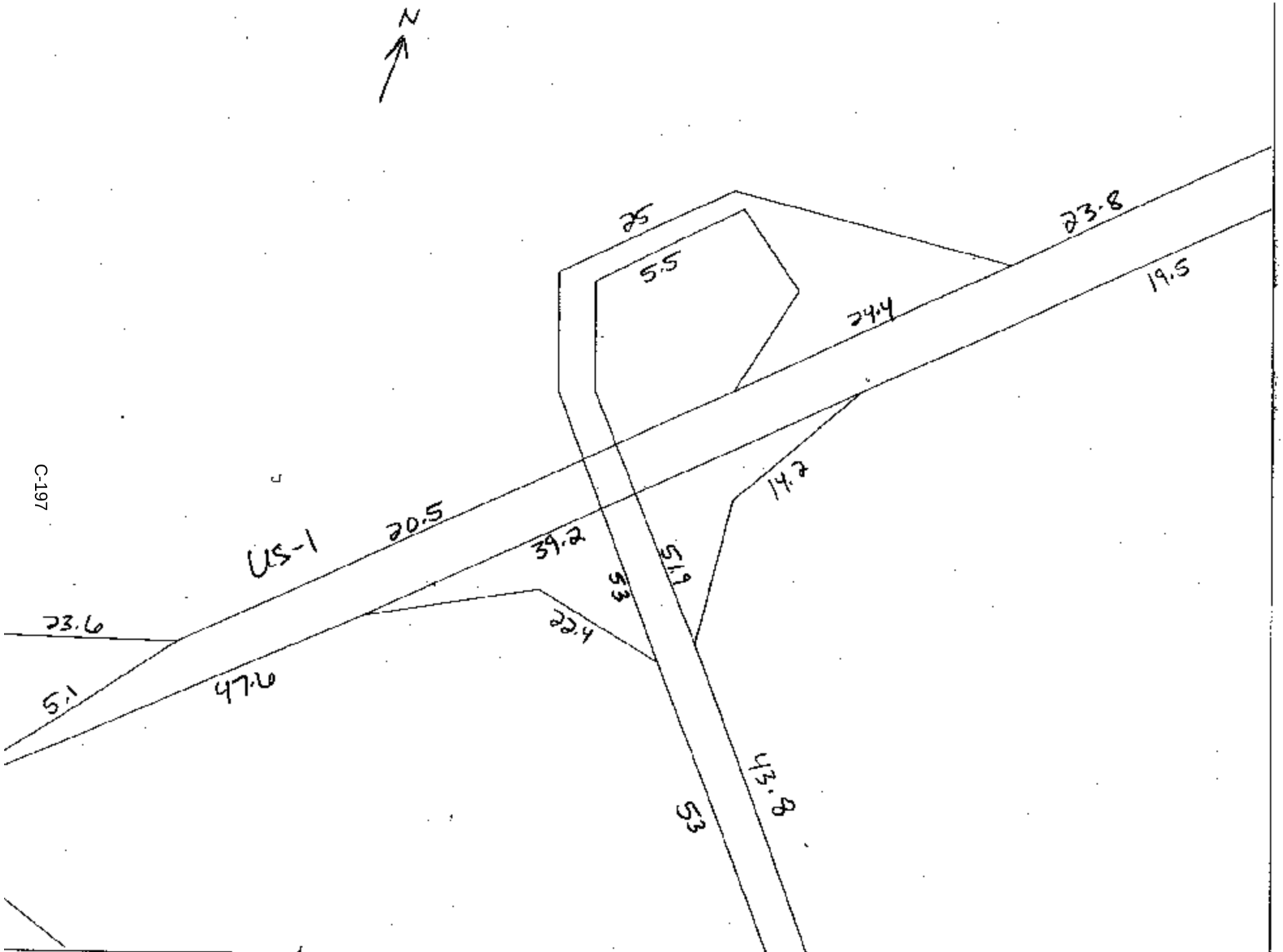

US-1
N
53
28.4
22.6
36.3
38.2
Perrine Rd.
53
48.9
US-130
Toll Plaza
ware by Citilabs
ROUTE 92 - PROJECTED 2028PM PEAK HOUR AM SPEEDS (MPH)
Licensed to Garmen Associates



er Software by Citilabs Route 92/US-1 Interchange - Projected 2028 AM Peak Hour Auto Volumes Licensed to Garmen Associates

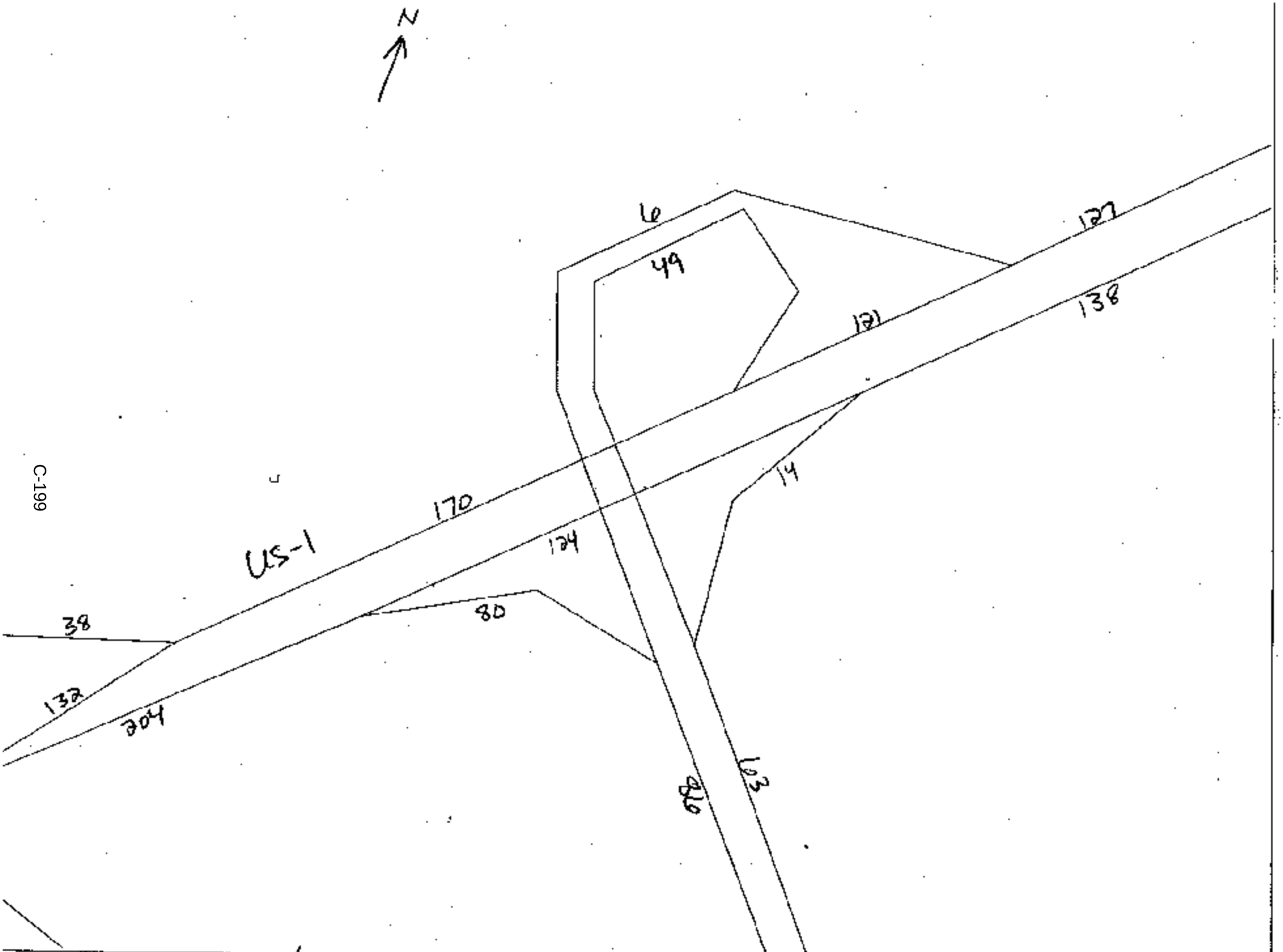


er Software by Citilabs Route 92/US-1 Interchange - Projected 2028 AM Peak Hour Truck Volumes Licensed to Germen Associates

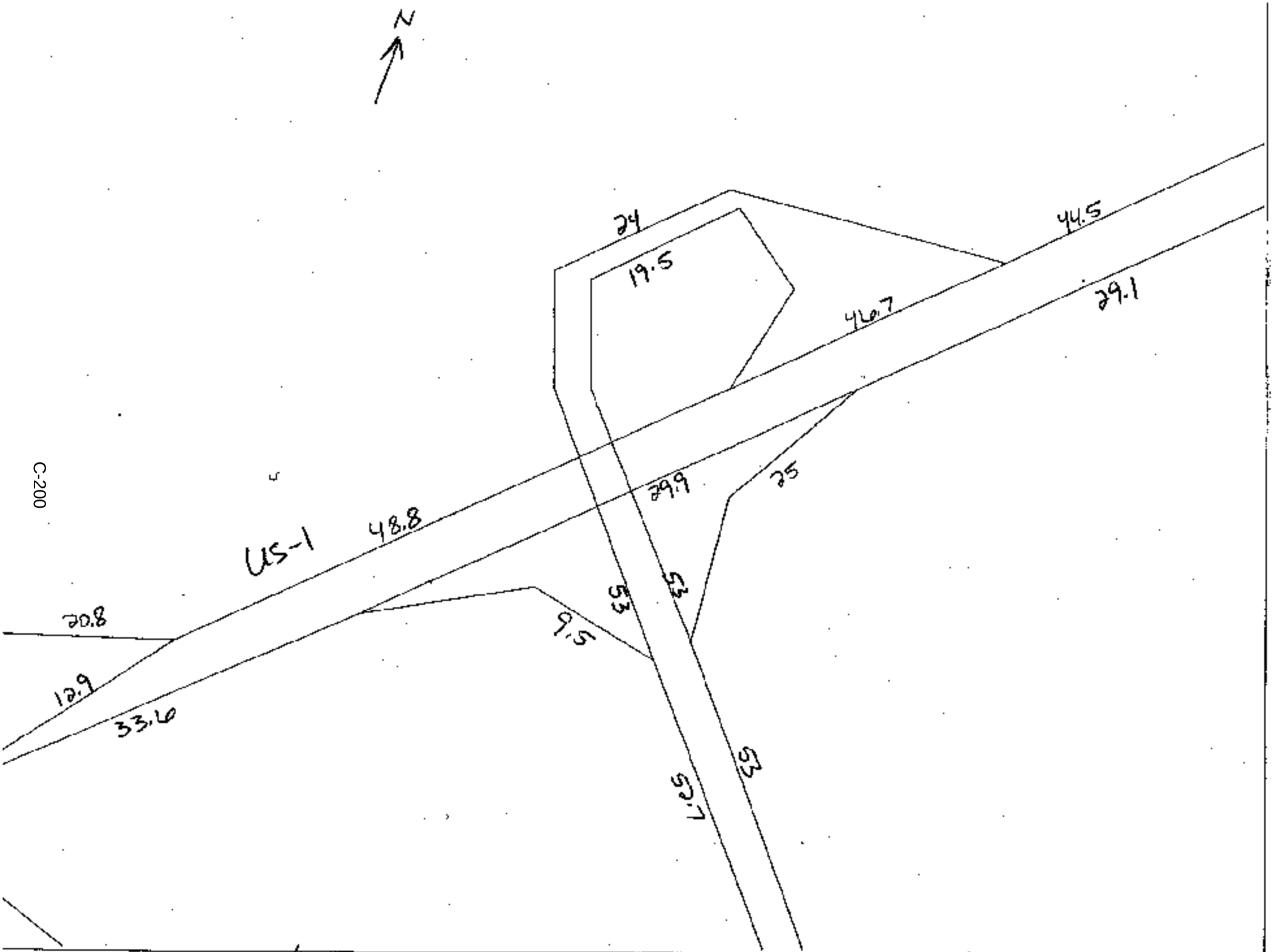


ber Software by Citilabs Route 92/US-1 Interchange - Projected 2028 AM Peak Hour Avg. Speeds (mph) Licensed to Garmen Associates

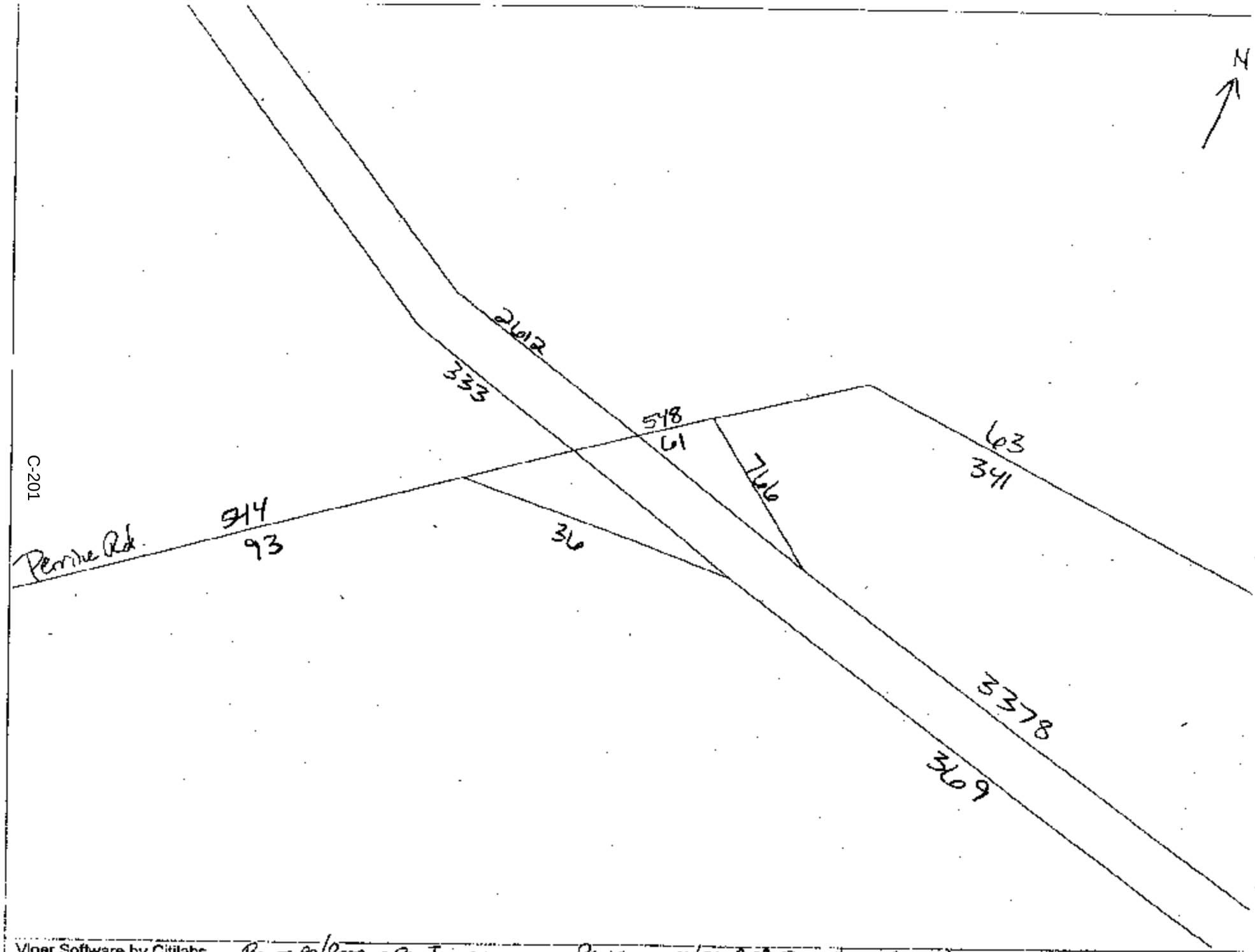
US-1
1400
504
1940
505
1921
2405
2442
2442
1982
1960
2442
N
Route 92/US-1 Interchange - Projected 2023 PM Peak Hour Auto Volumes
Licensed to Garmen Associates
er Software by Citilabs



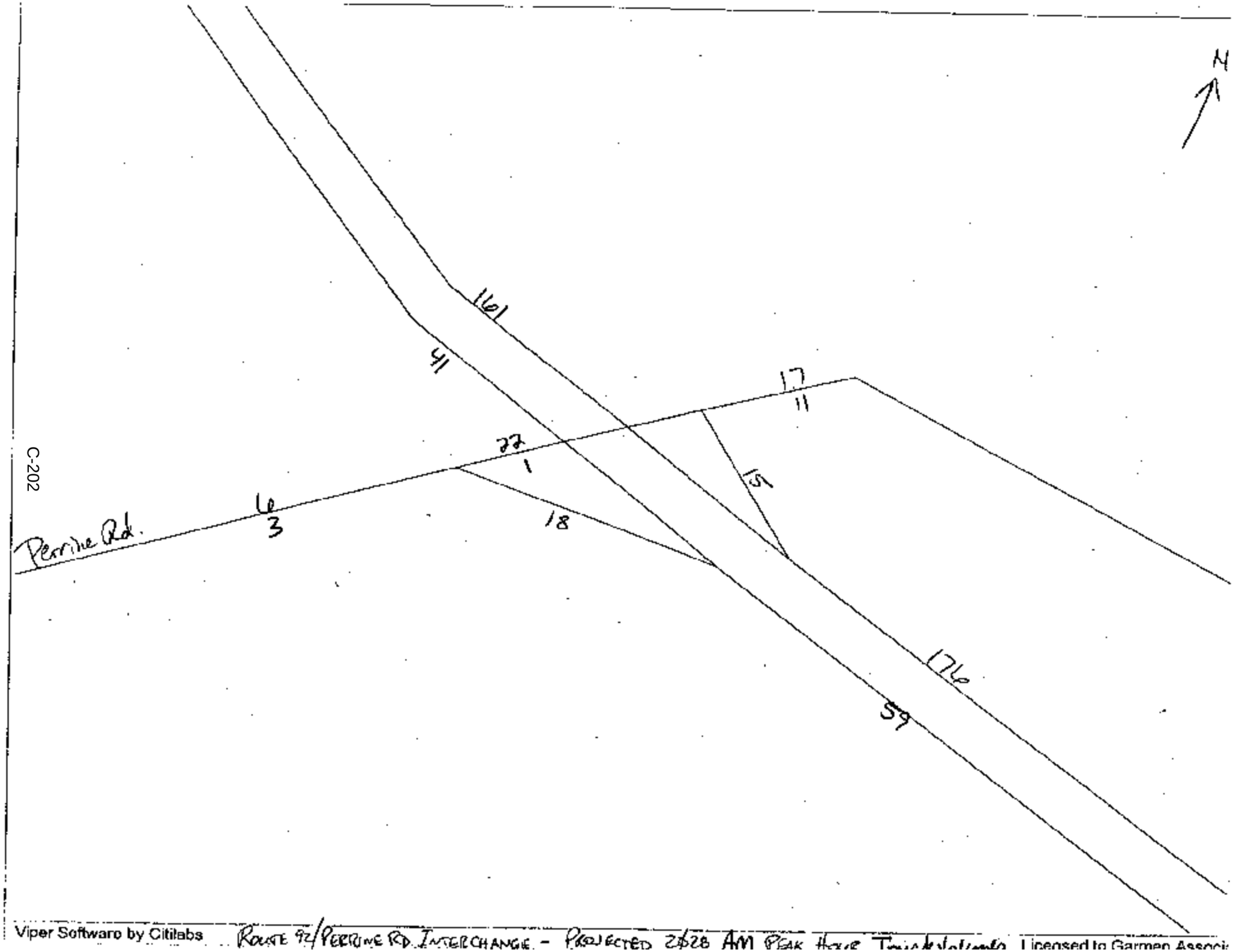
er Software by Citilabs Route 92/US-1 Interchange - Projected 2028 AM Peak Hour Truck Volumes Licensed to Garmen Associates



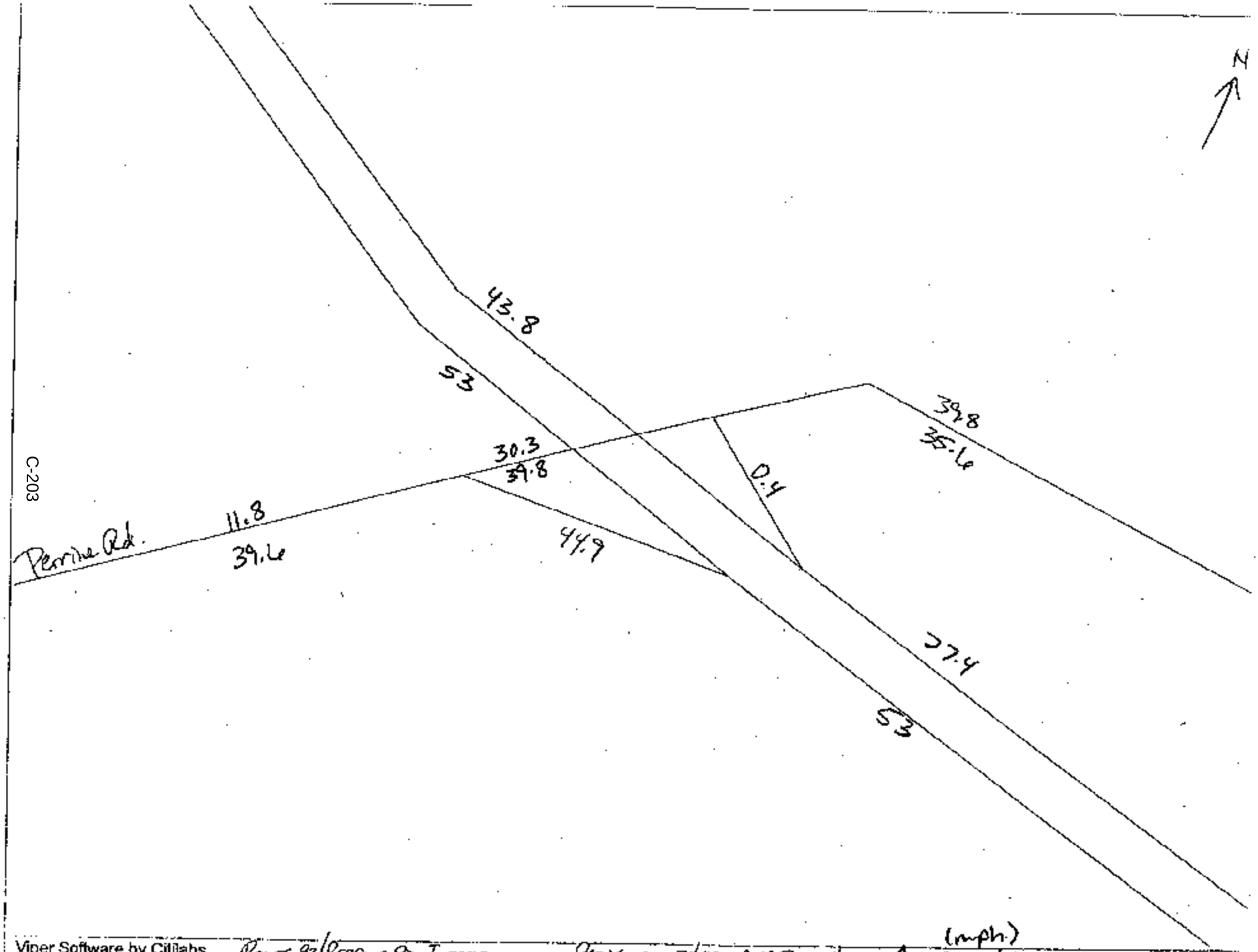
er Software by Citilabs Route 92/US-1 Interchange - Projected 2028 AM Peak Hour Avg. Speeds (mph) Licensed to Garmen Associates



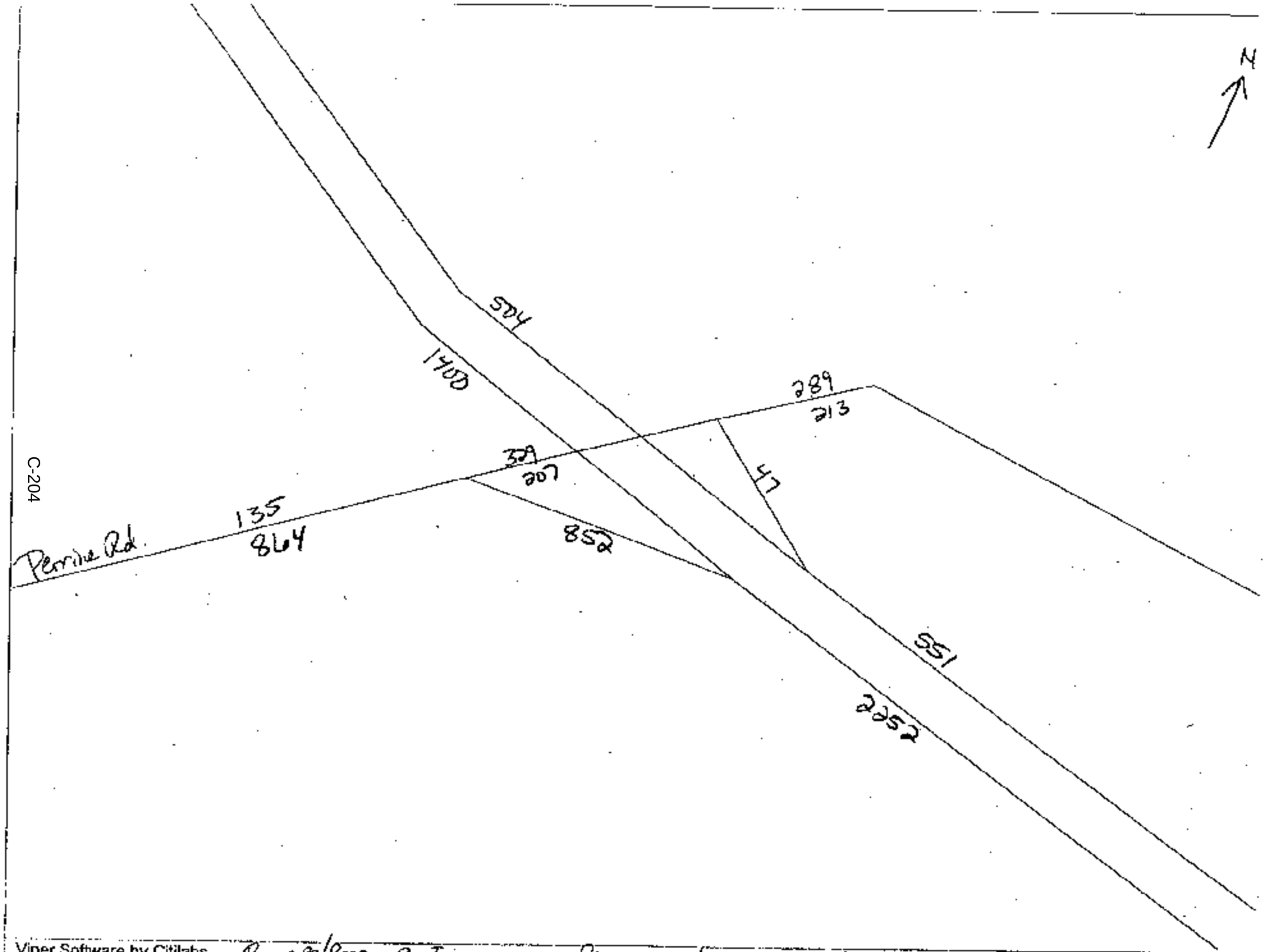
Viper Software by Citilabs. Route 92/Perrine Rd. Interchange - Projected 2028 AM Peak Hour Auto Volumes. Licensed to Garmen Associ



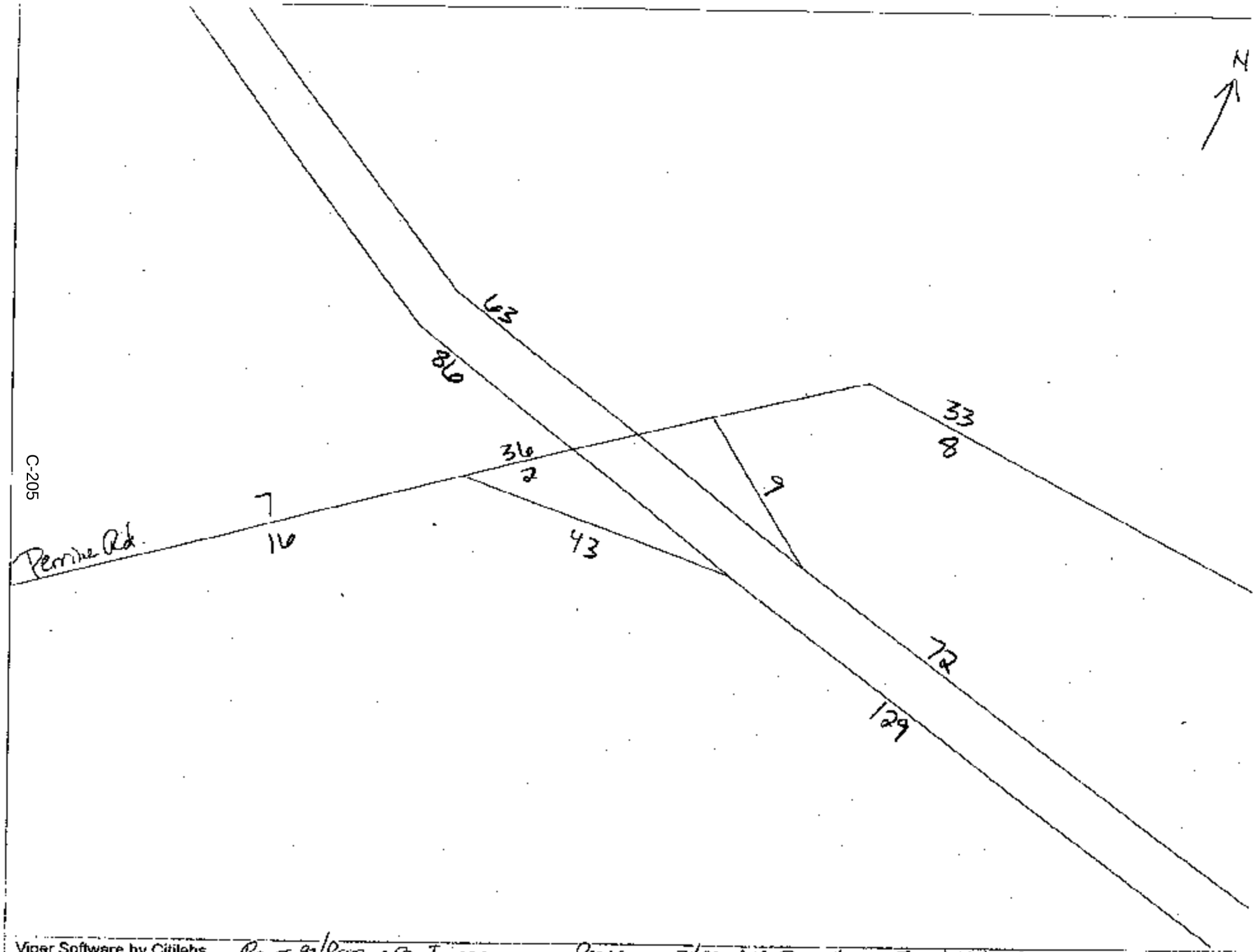
Viper Software by Citilabs Route 92/Perrine Rd. Interchange - Projected 2028 AM Peak Hour Traffic Volumes Licensed to Garmen Associ



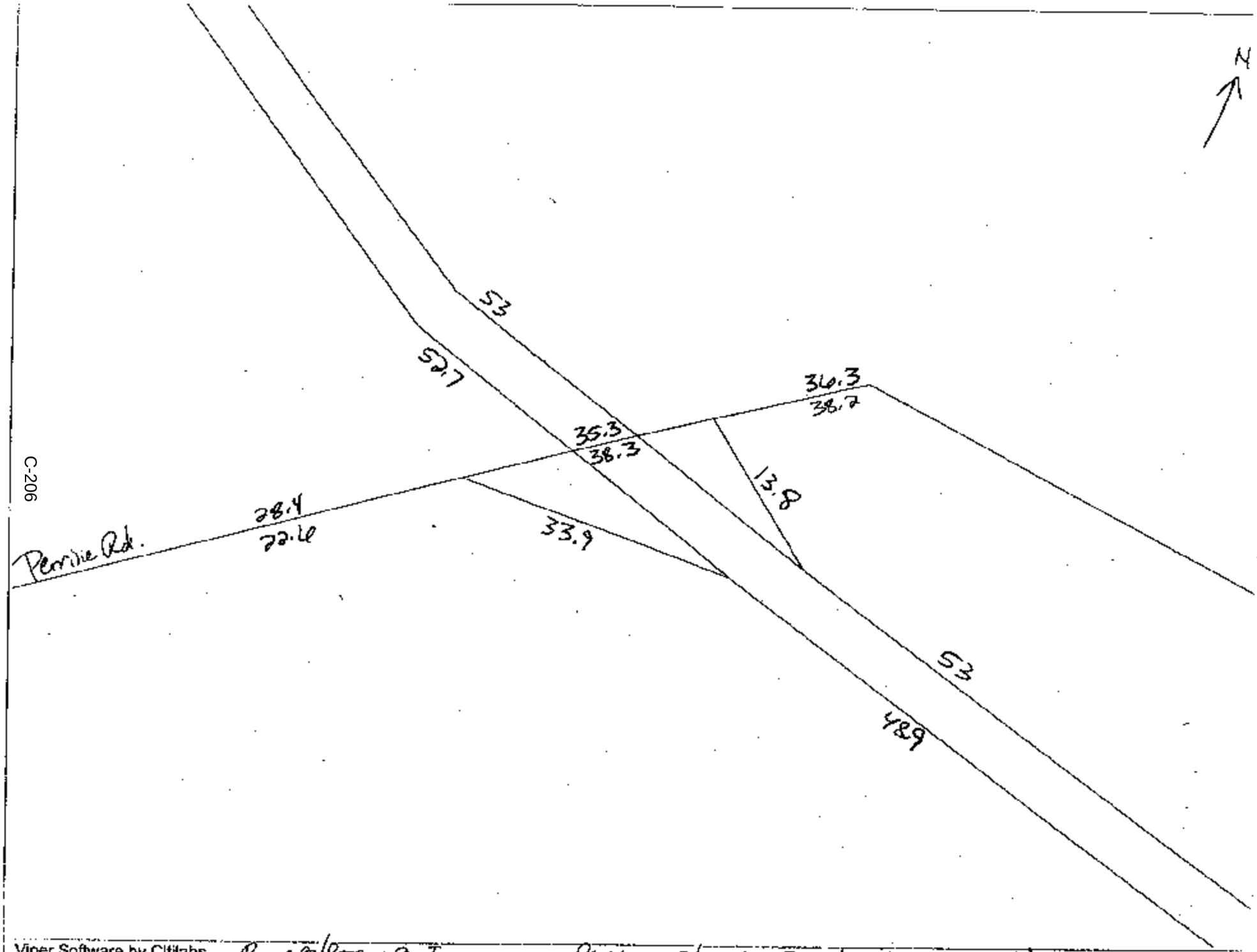
Viper Software by Citilabs Route 92/Perrine Rd. Interchange - Projected 2028 AM Peak Hour Avg. Speeds (mph) Licensed to Garmen Associ



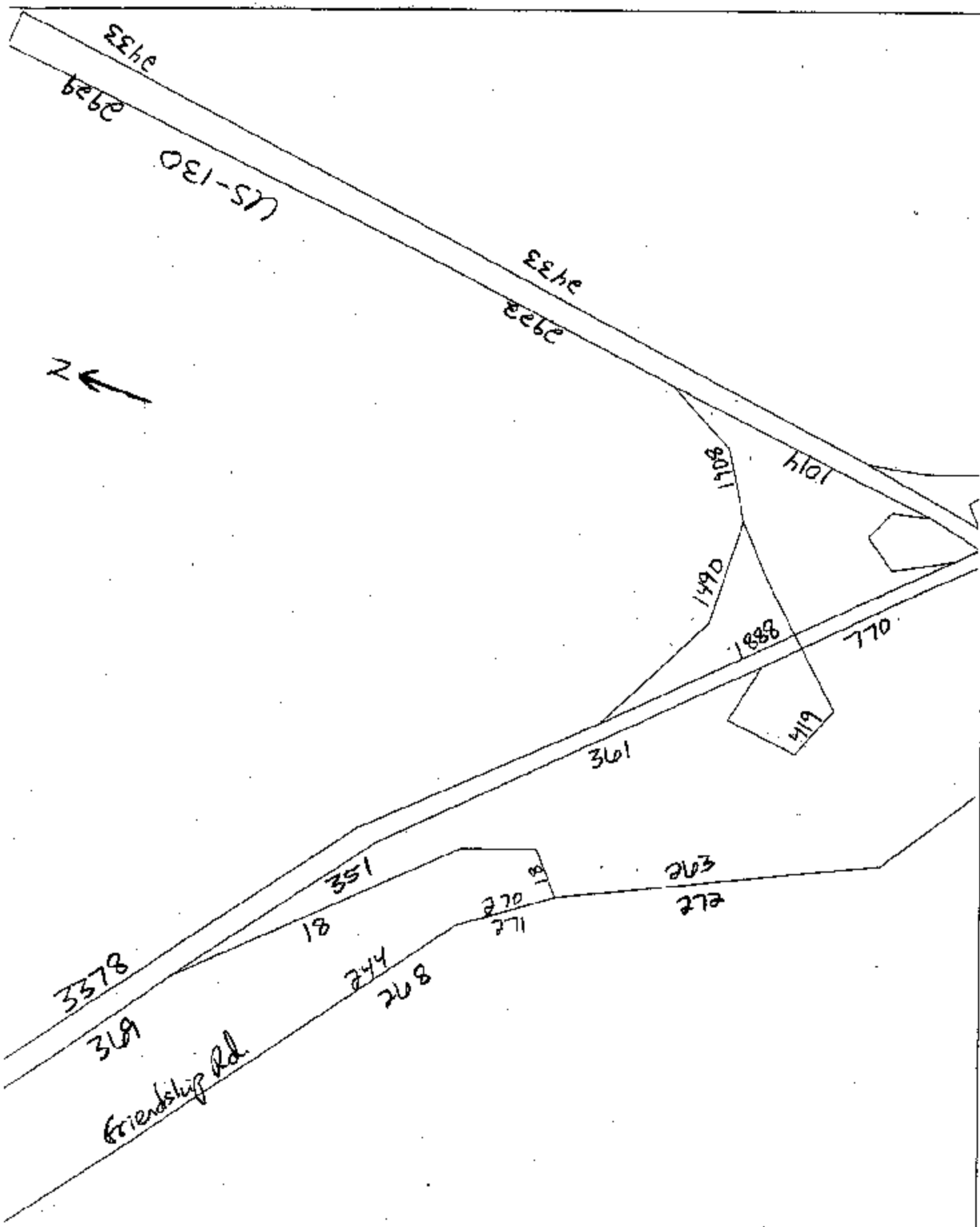
Viper Software by Citilabs ROUTE 92/PERRINE RD. INTERCHANGE - PROJECTED 2028 AM PEAK HOUR Auto Volumes Licensed to Garmen Associ



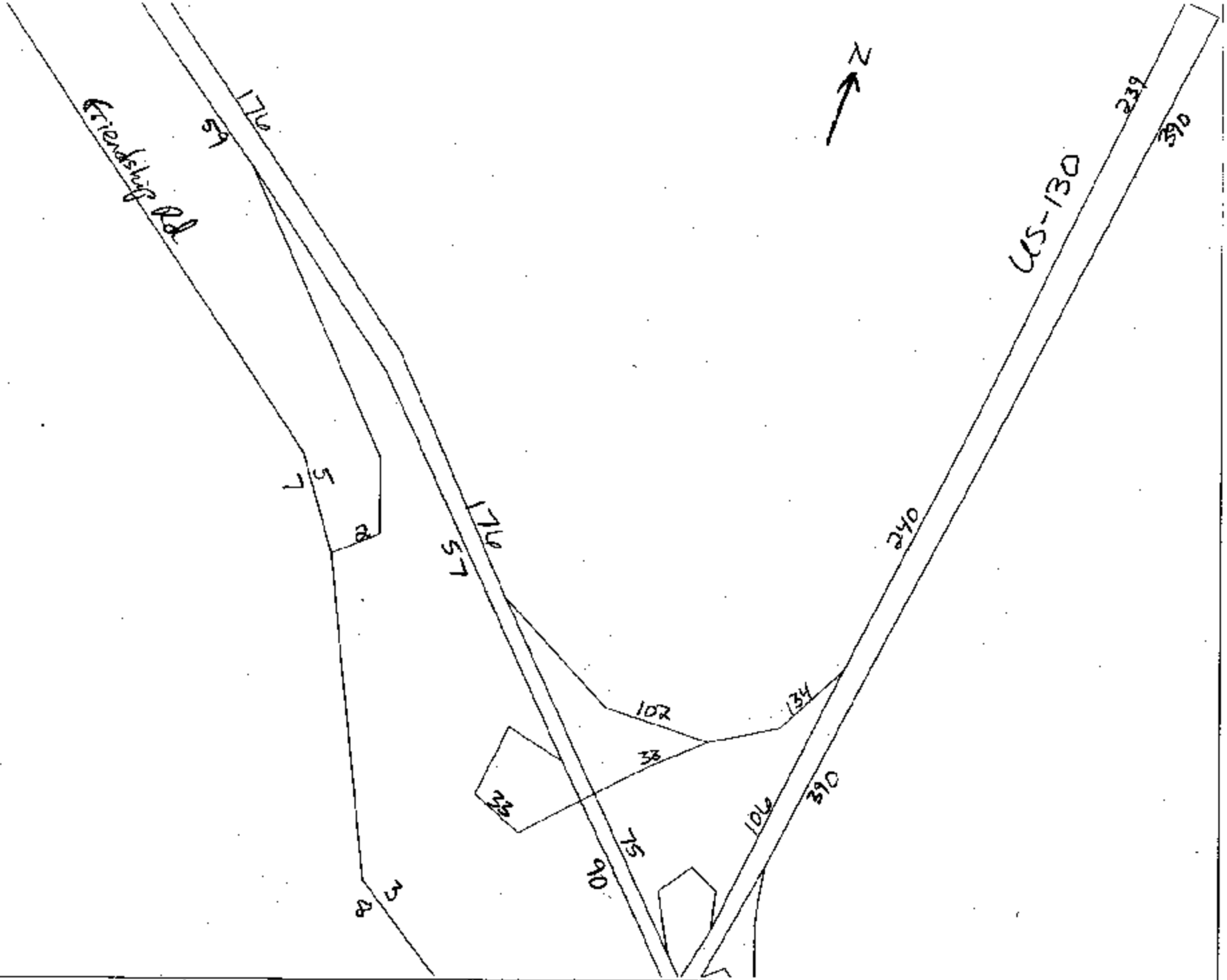
Viper Software by Citilabs Route 92/Perrine Rd. Interchange - Projected 2028 AM Peak Hour Truck Volumes Licensed to Garmen Associ



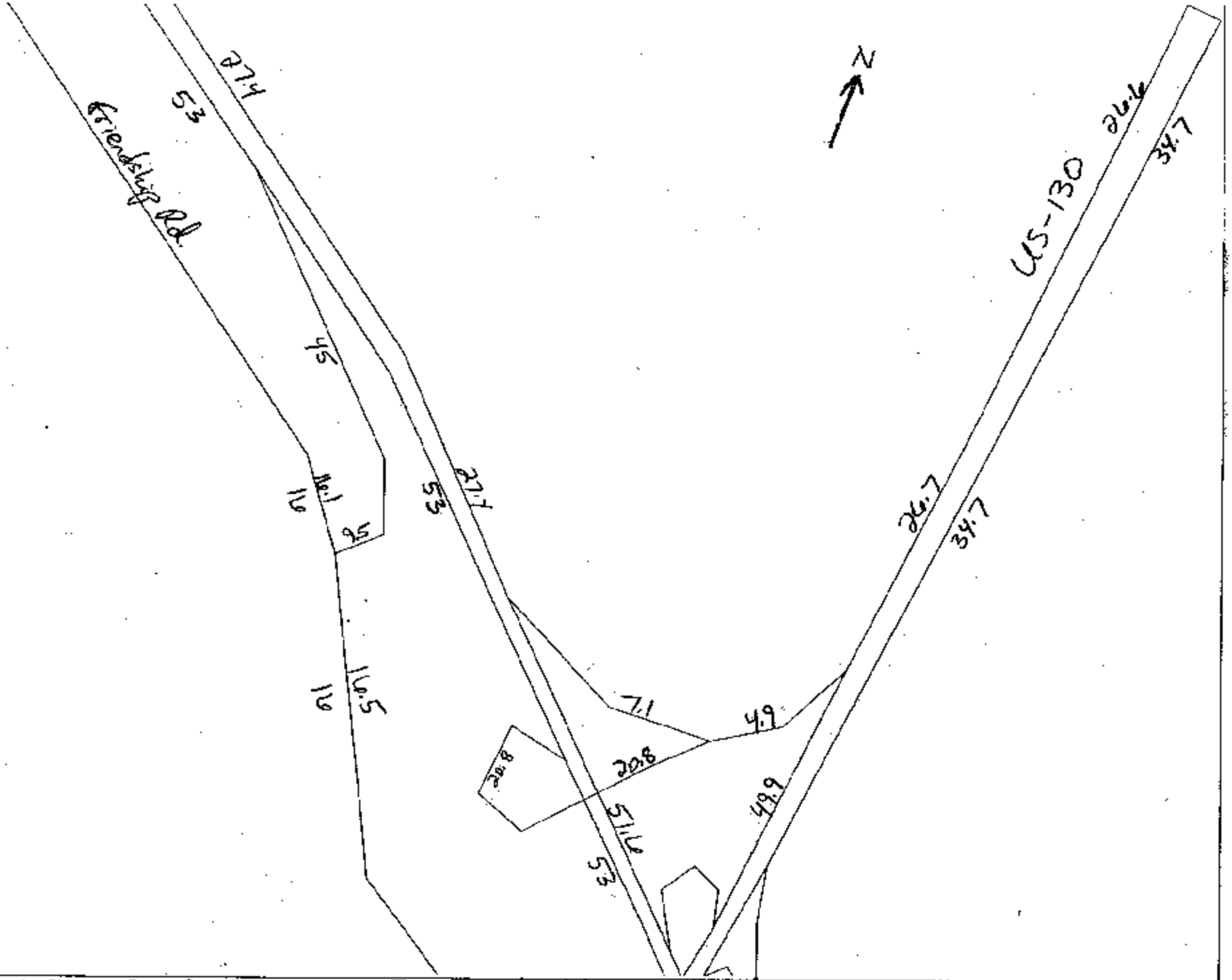
Viper Software by Citilabs Route 92/Perrine Rd. Interchange - Projected 2028 PM Peak Hour Avg. Speeds (mph) Licensed to Garmen Associ



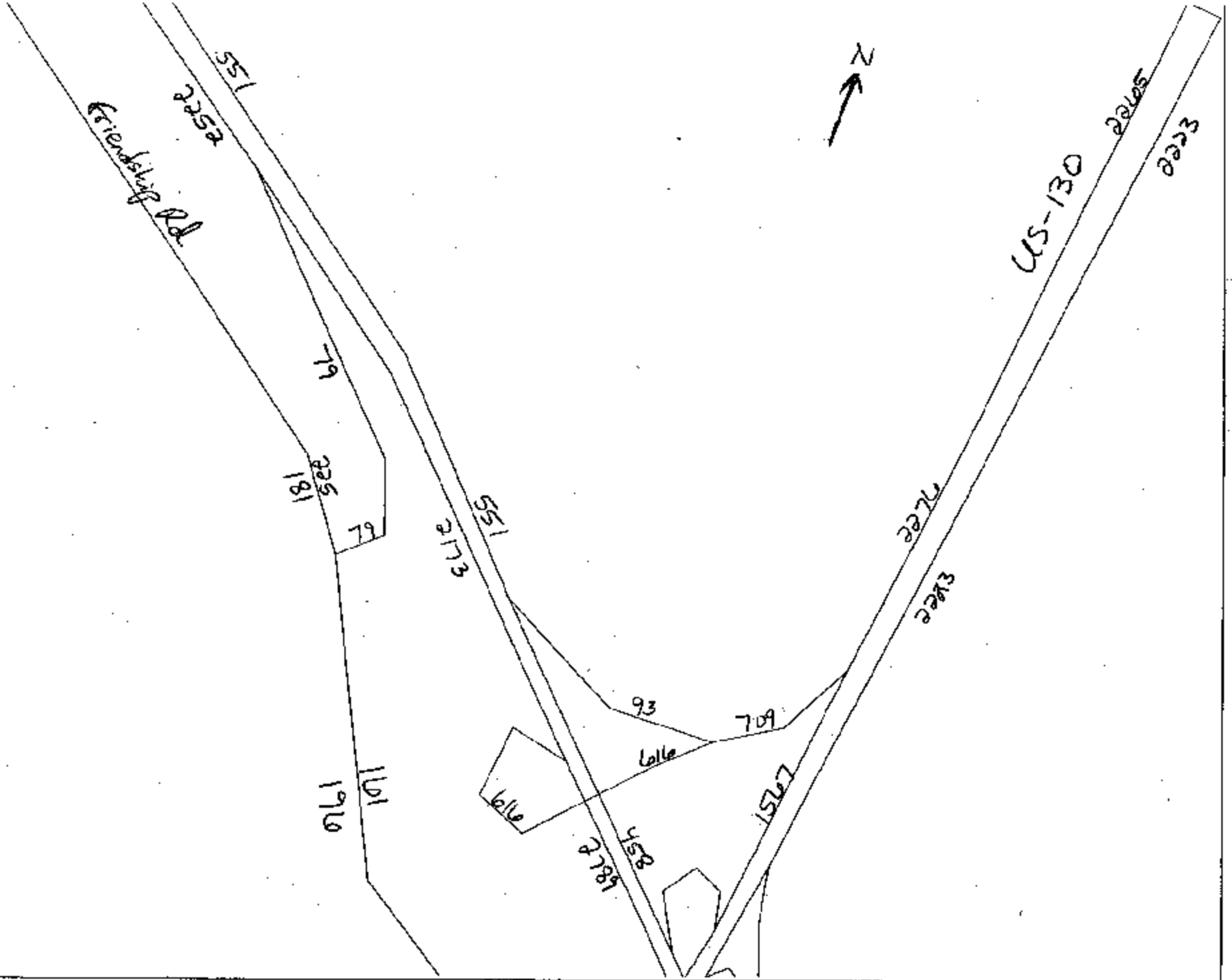
ar Software by Citilabs Route 92 West of US-130 -- Projected 2028 AM Peak Hour Auto Volumes Licensed to Garmen Associates



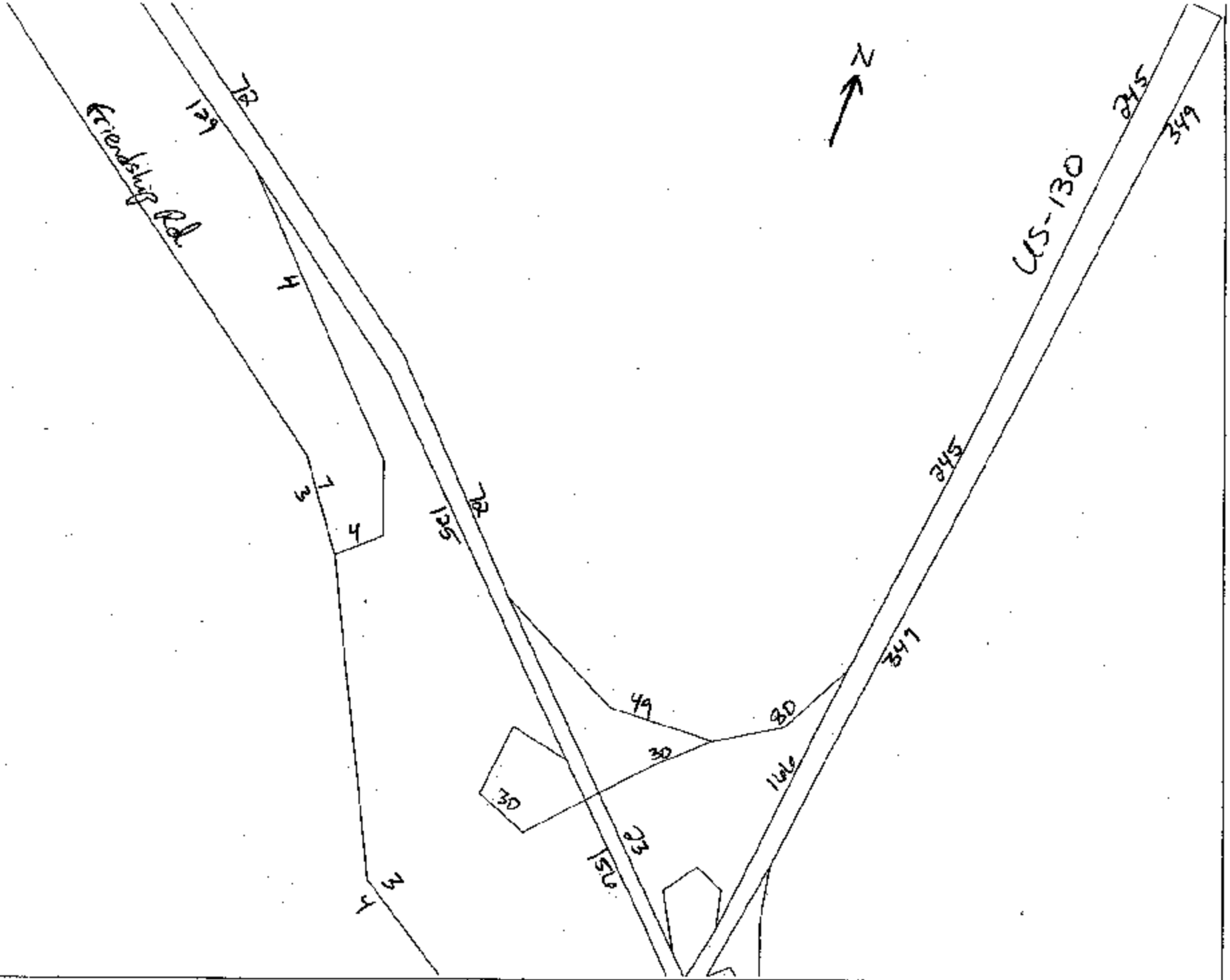
er Software by Citilabs Route 92 West of US-130 - Projected 2028 AM Peak Hour Truck Volumes Licensed to Garmen Associates



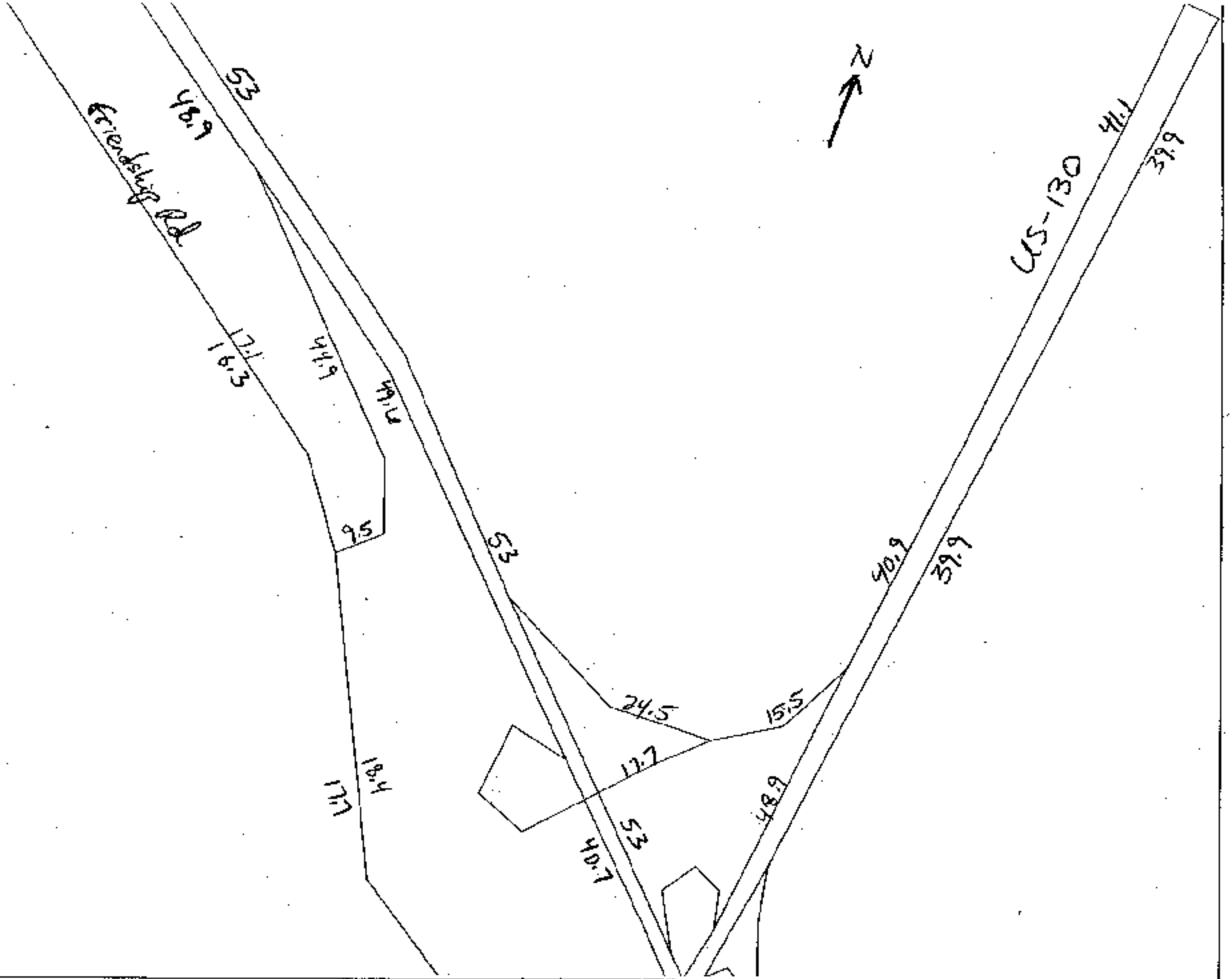
er Software by Citilabs Route 92 West of US-130 - Projected 2028 AM Peak Hour Avg. Speeds (mph) Licensed to Garmen Associates



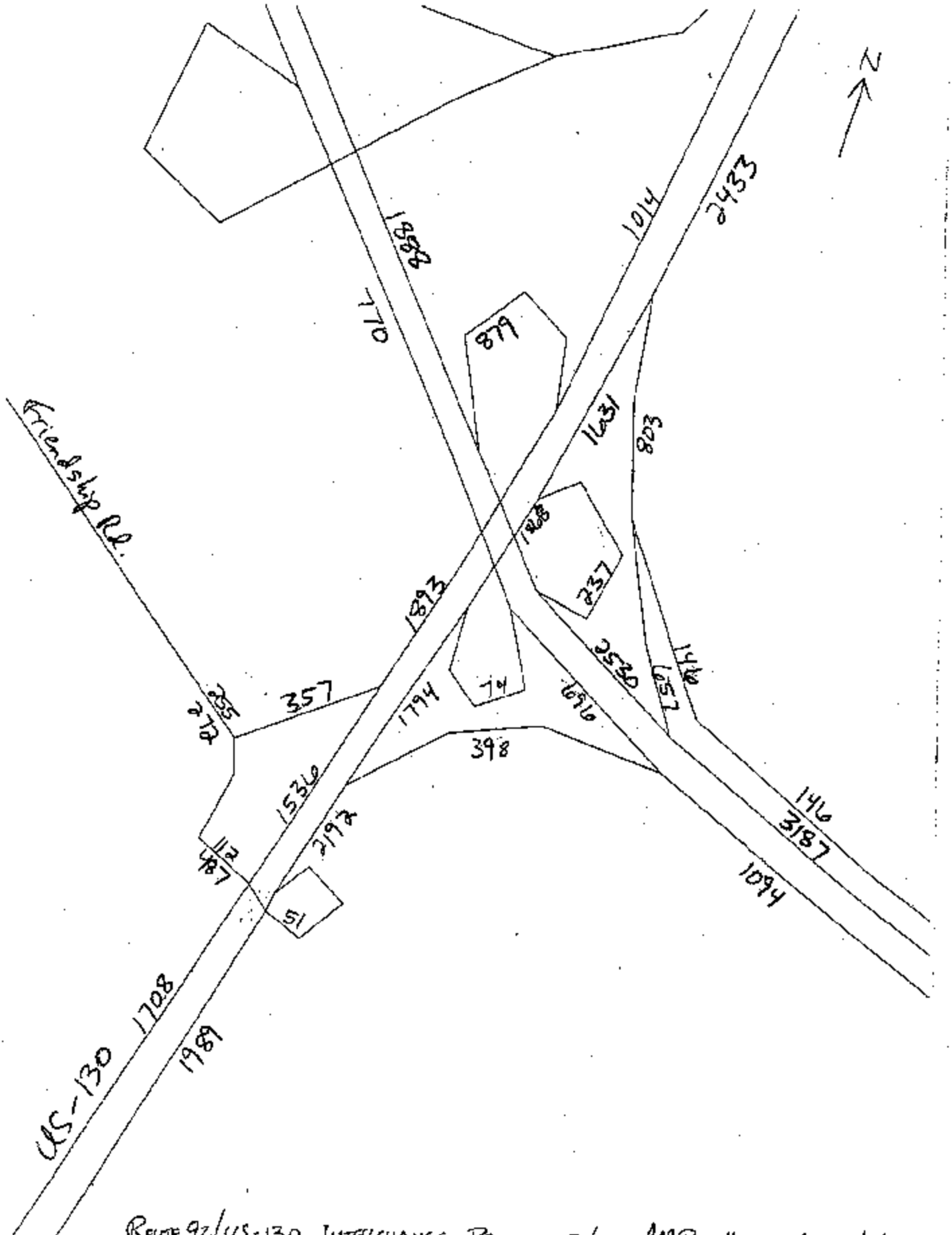
er Software by Citilabs Route 92 West of US-130 - Projected 2028 PM Peak Hour Auto Volumes Licensed to Garmen Associates



er Software by Citilabs Route 92 West of US-130 - Projected 2028 AM Peak Hour Truck Volumes Licensed to Garmen Associates



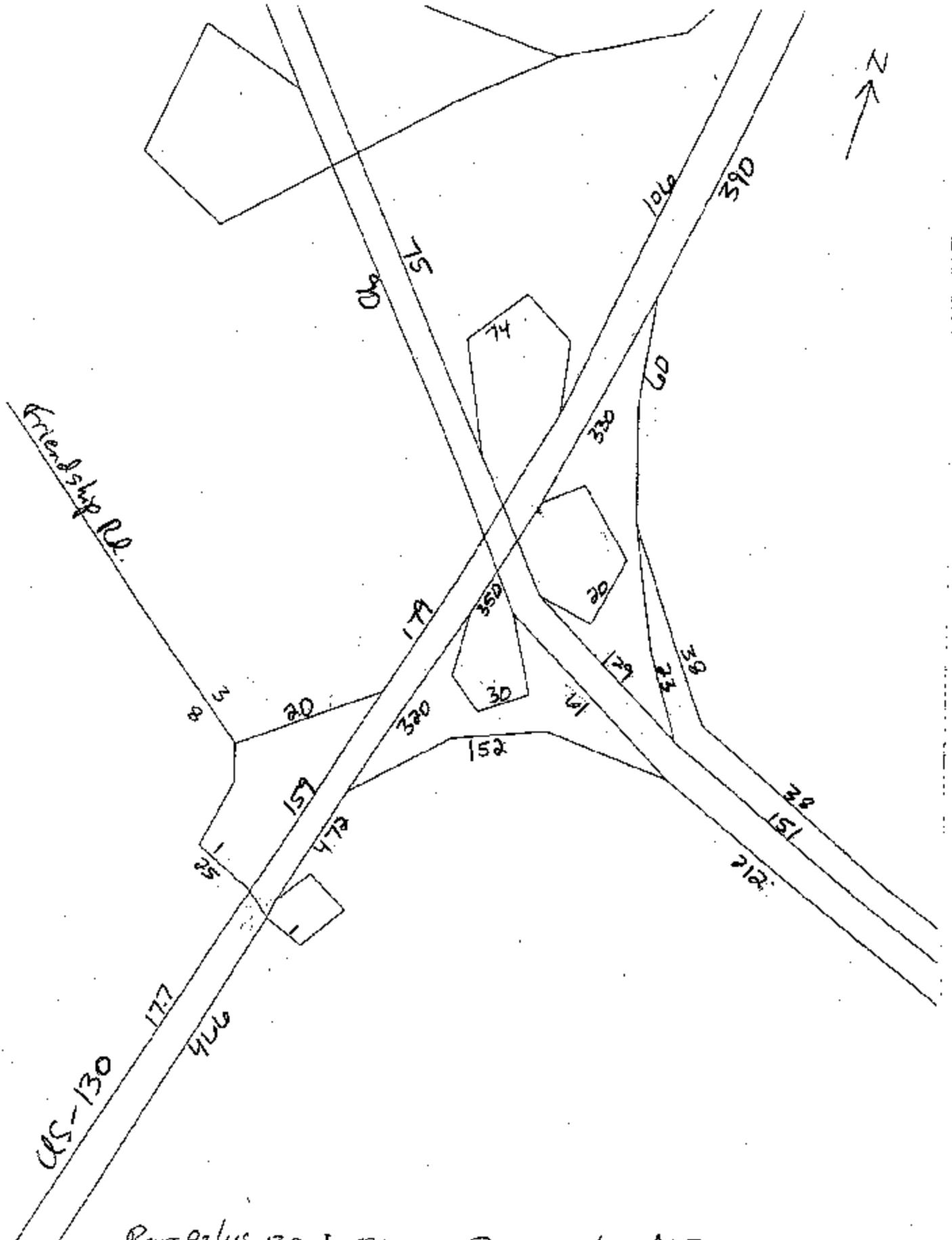
er Software by Citilabs Route 92 West of US-130 - Projected 2028 PM Peak Hour Avg. Speeds (mph) Licensed to Garmen Associates



Route 92/US-130 Interchange - Projected 2028 AM Peak Hour Auto Volumes

Viper Software by Citilabs

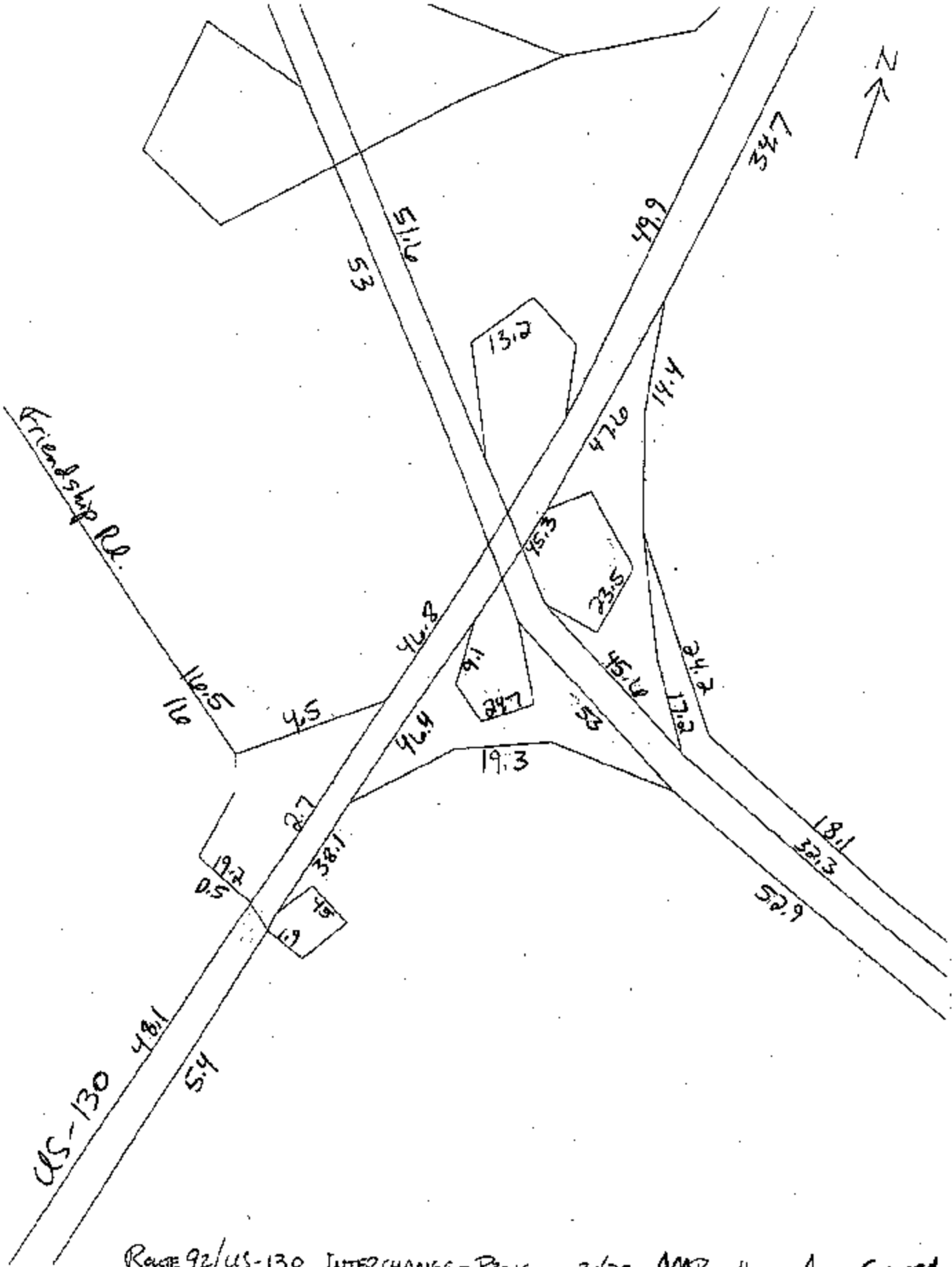
Licensec to Garmen Associates



Route 92/US-130 Interchange - Projected 2028 AM Peak Hour Truck Volumes

Viper Software by Citilabs

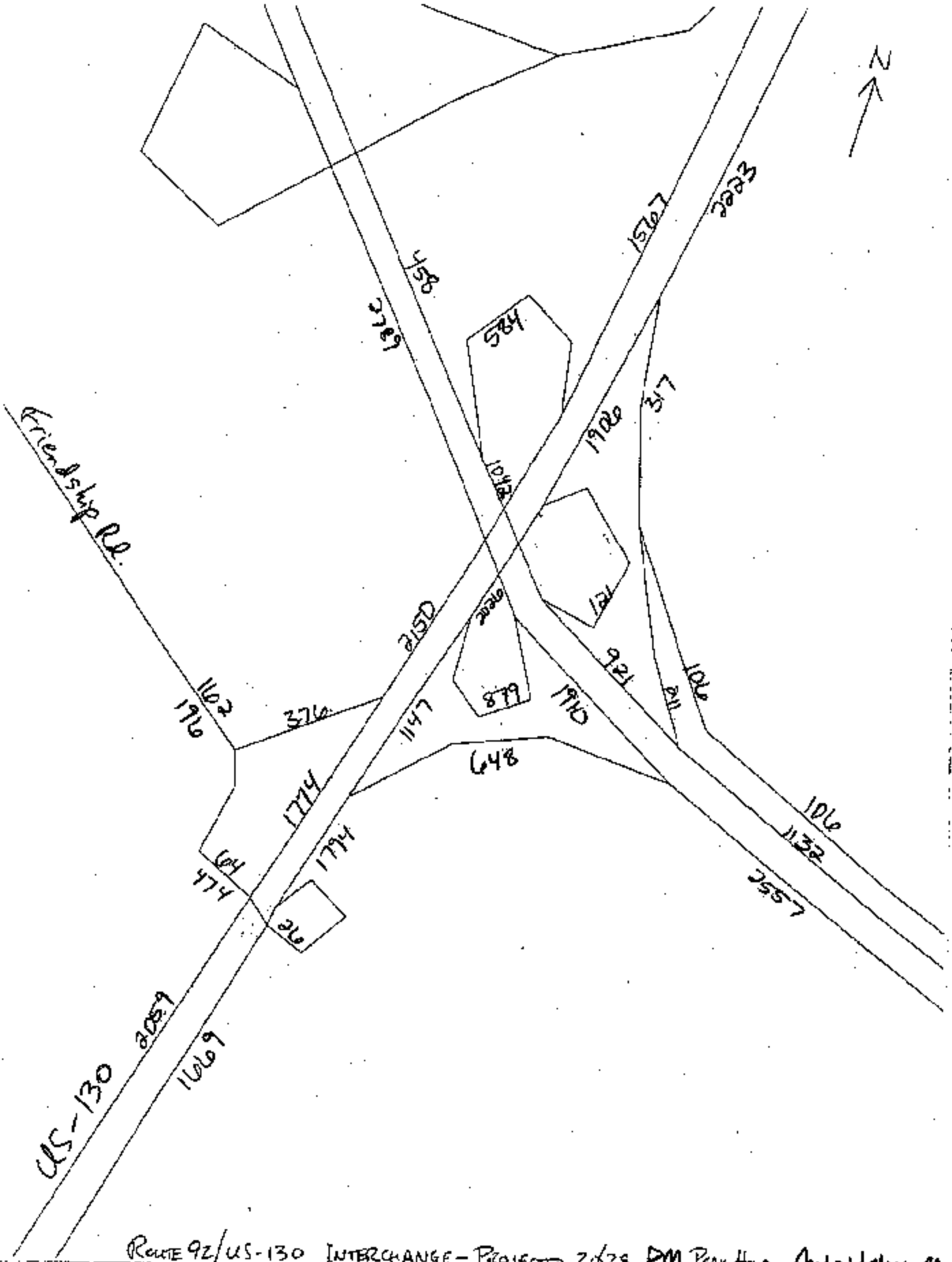
Licensed to Garmen Associates



Route 92/US-130 Interchange – Projected 2028 AM Peak Hour Avg. Speeds (mph)

Viper Software by Citilabs

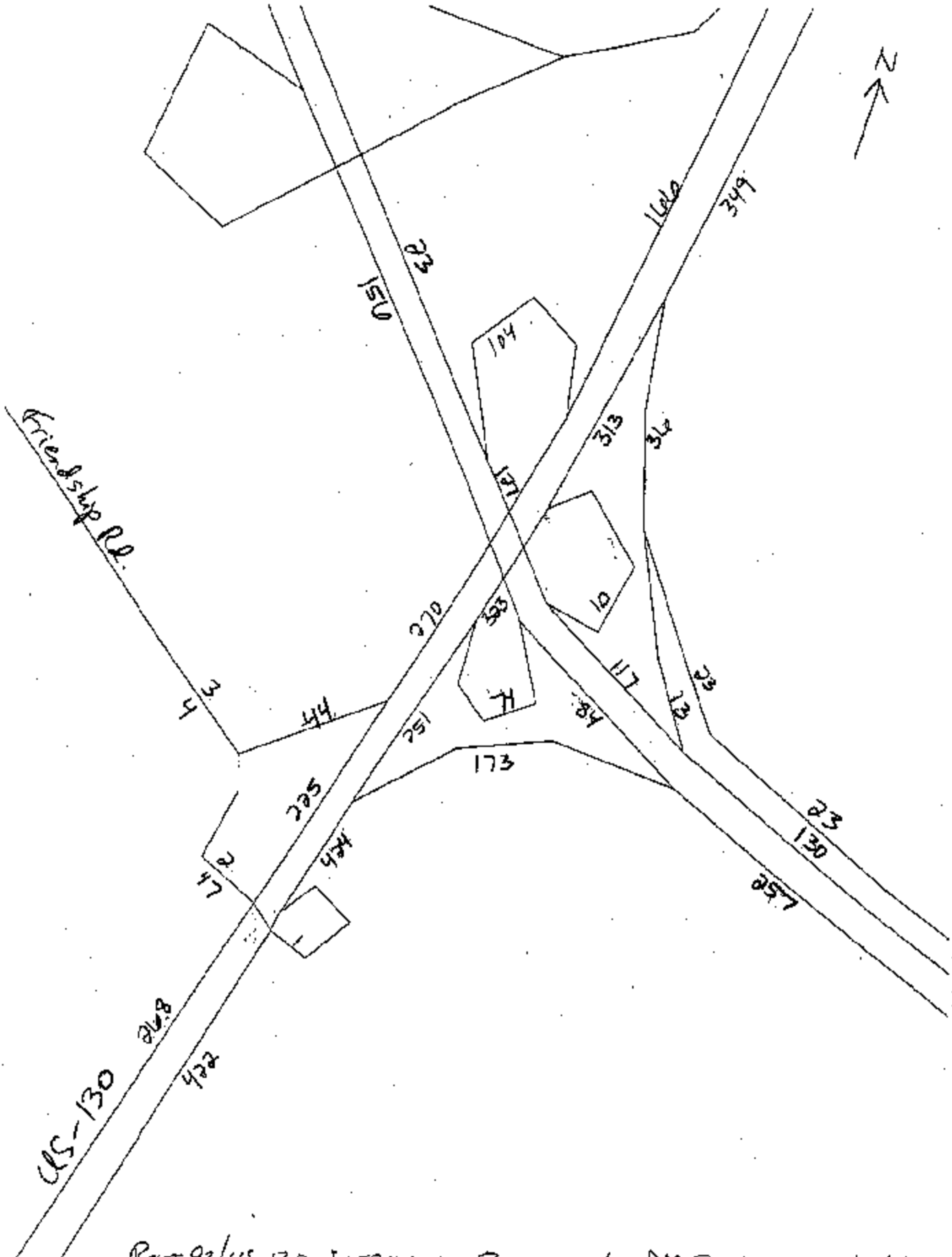
Licensed to Garmen Associates



Route 92/US-130 Interchange – Projected 2028 PM Peak Hour Auto Volumes

Viper Software by Citilabs

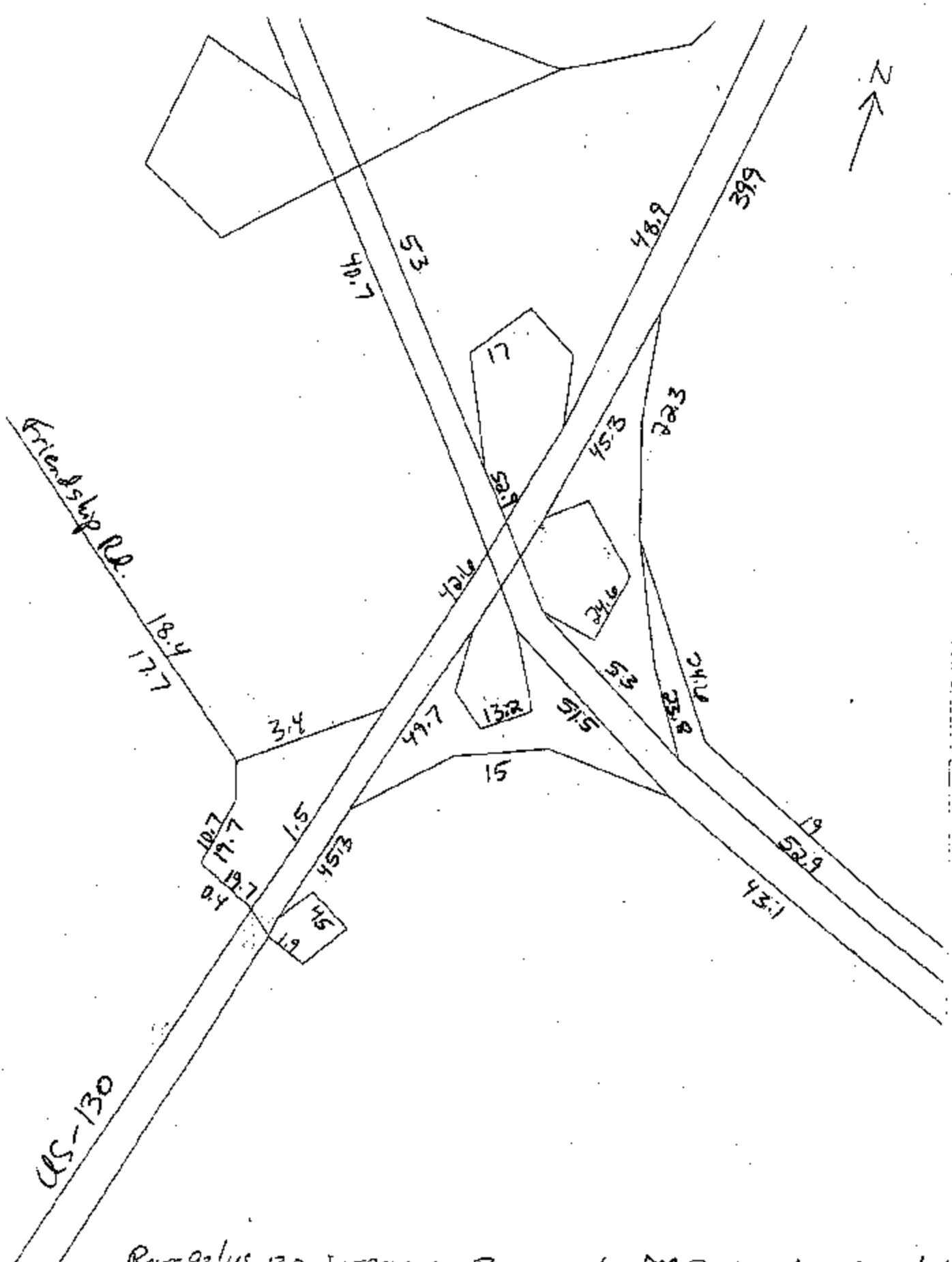
Licensed to Garmen Associates



Route 92/US-130 Interchange – Projected 2028 PM Peak Hour Truck Volumes

Viper Software by Citilabs

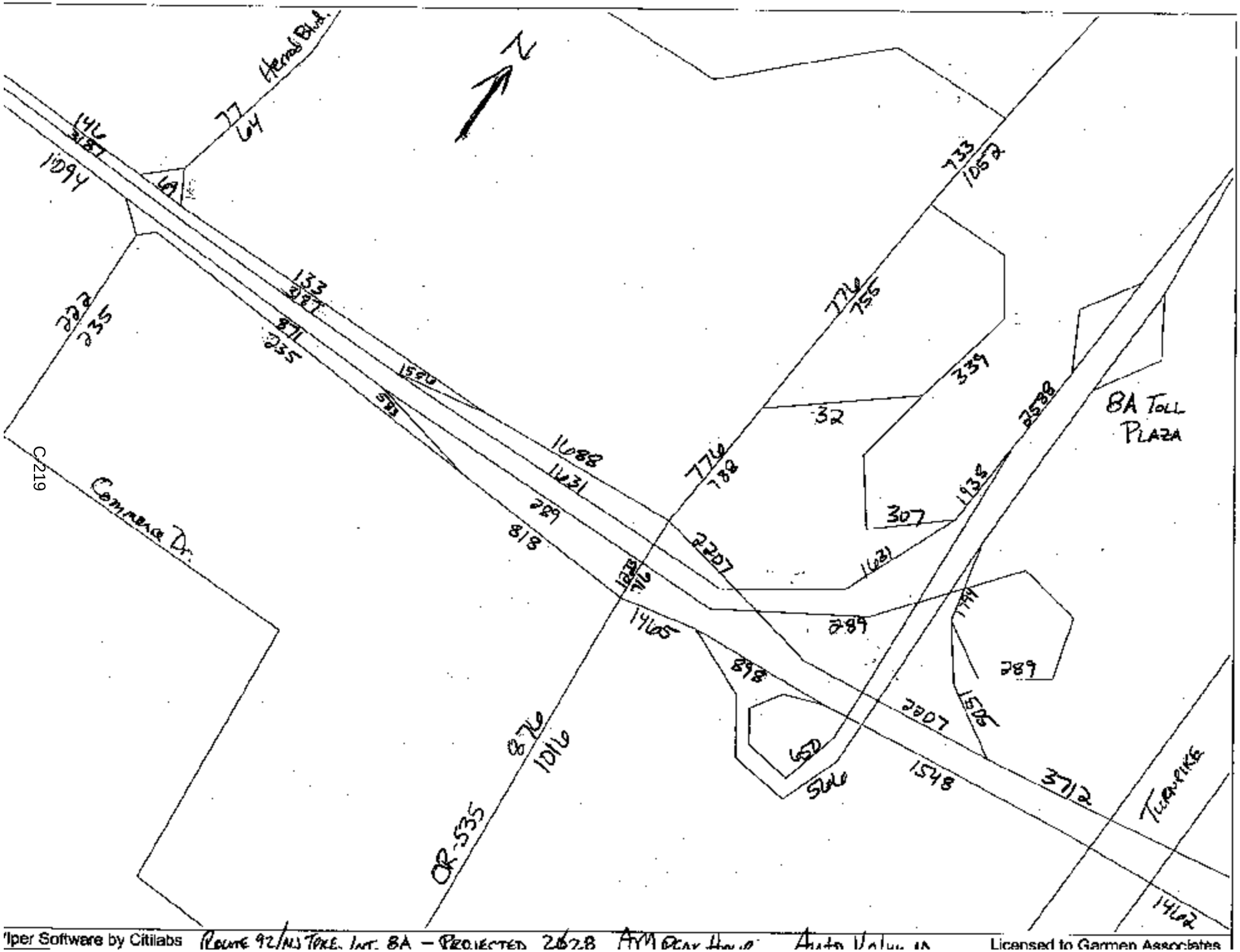
Licensed to Gannen Associates



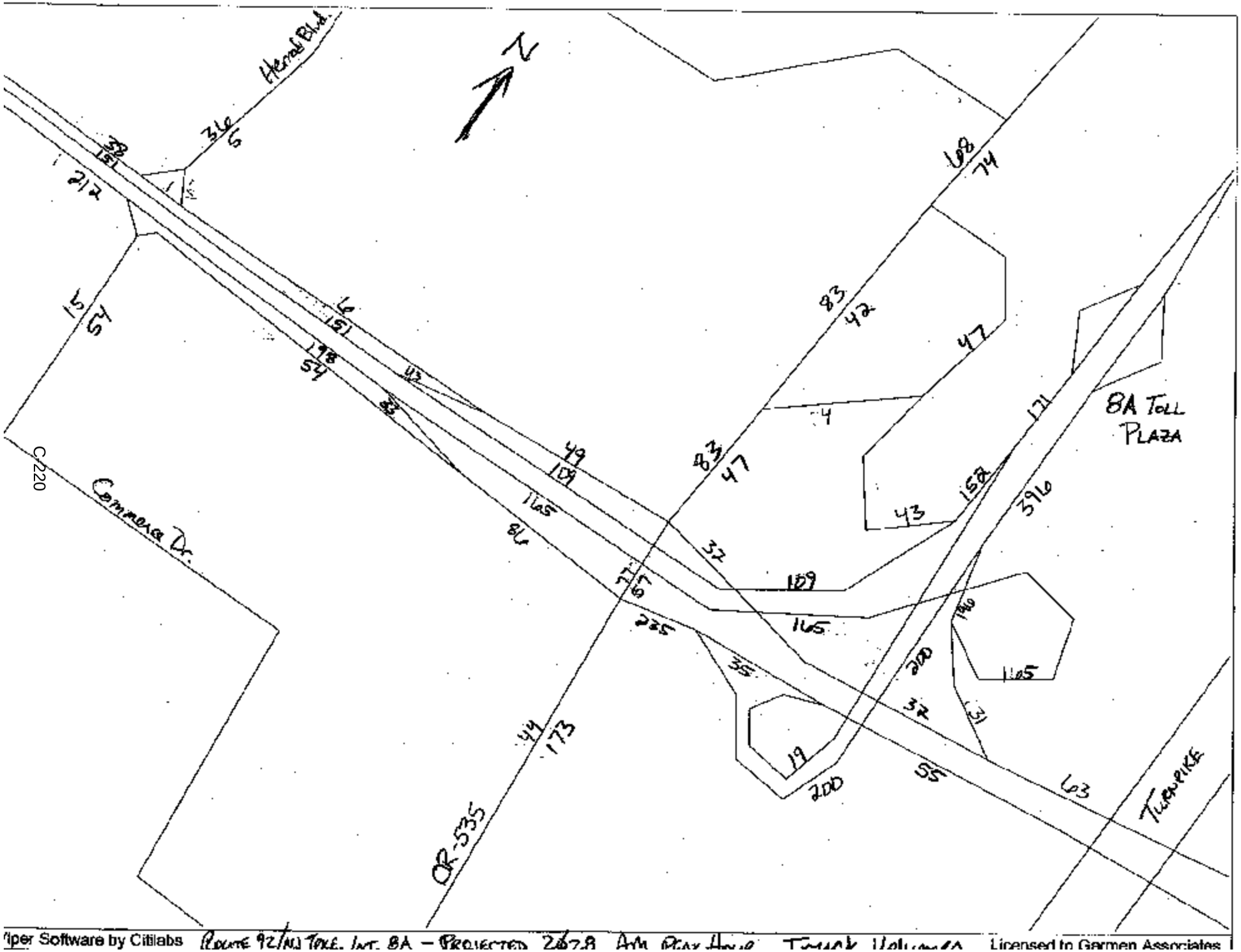
Route 92/US-130 Interchange – Projected 2028 AM Peak Hour Avg. Speeds (mph)

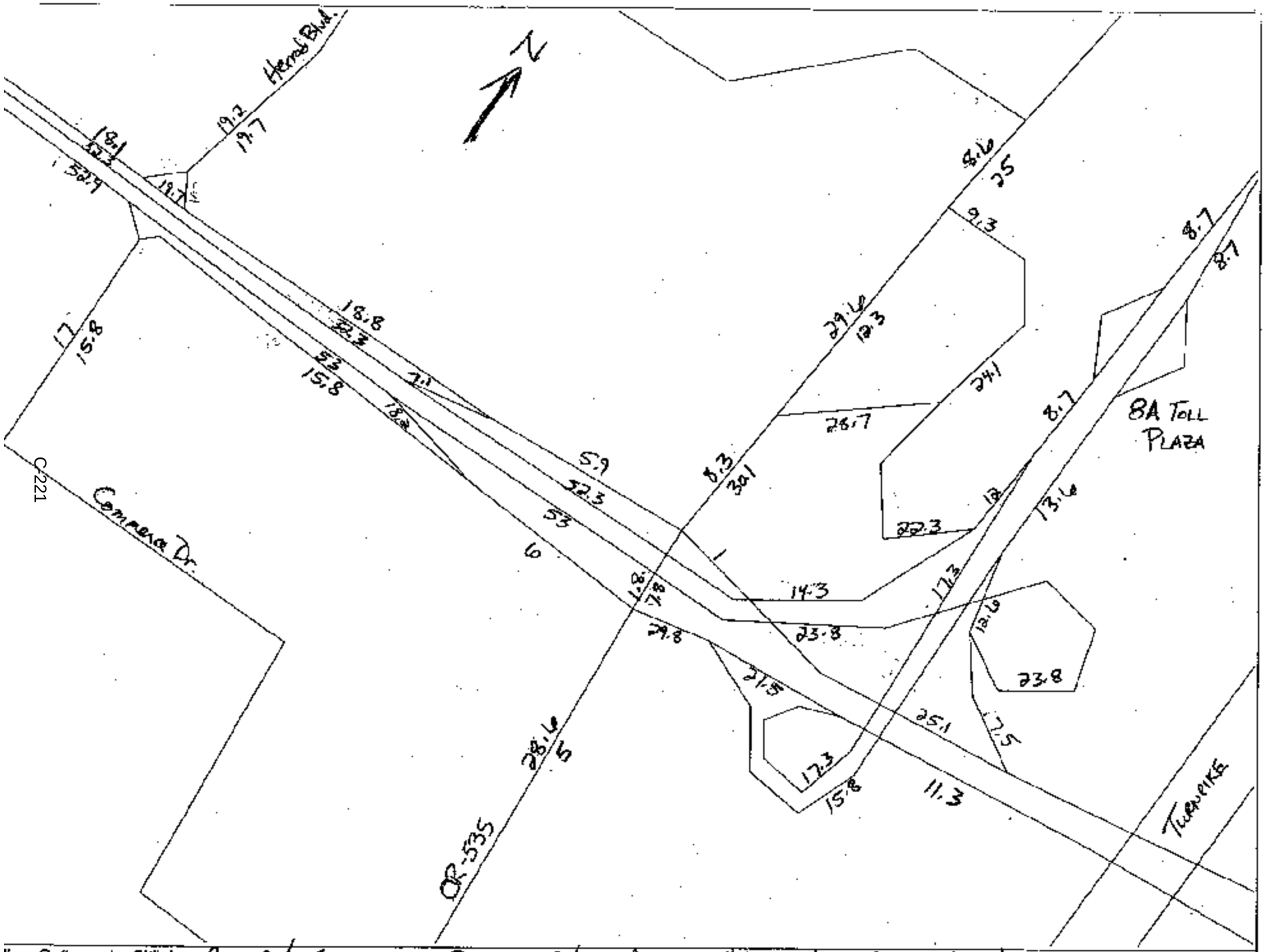
Viper Software by Citilabs

Licensed to Garmen Associates

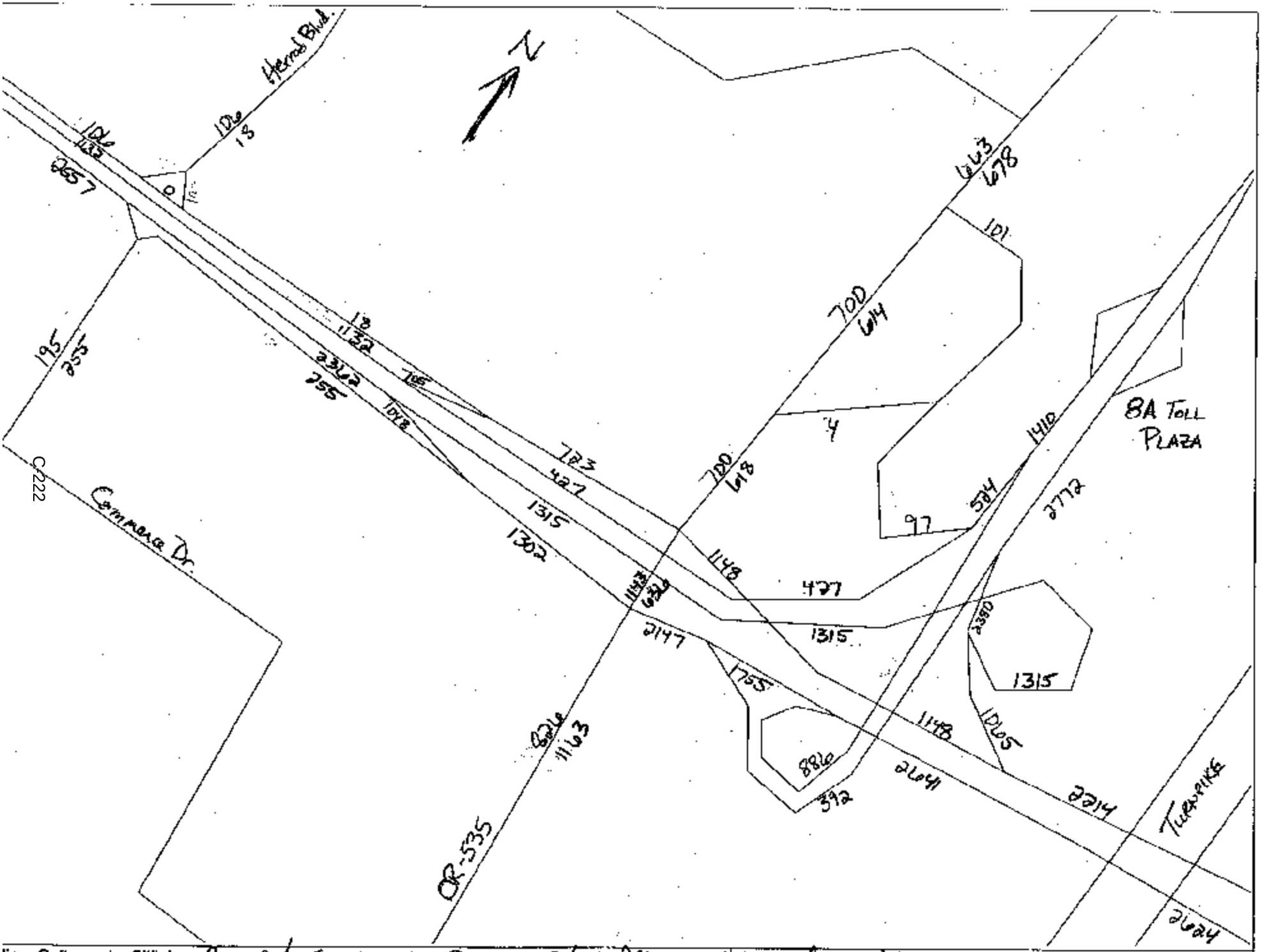


Viper Software by Citilabs Licensed to Garmen Associates

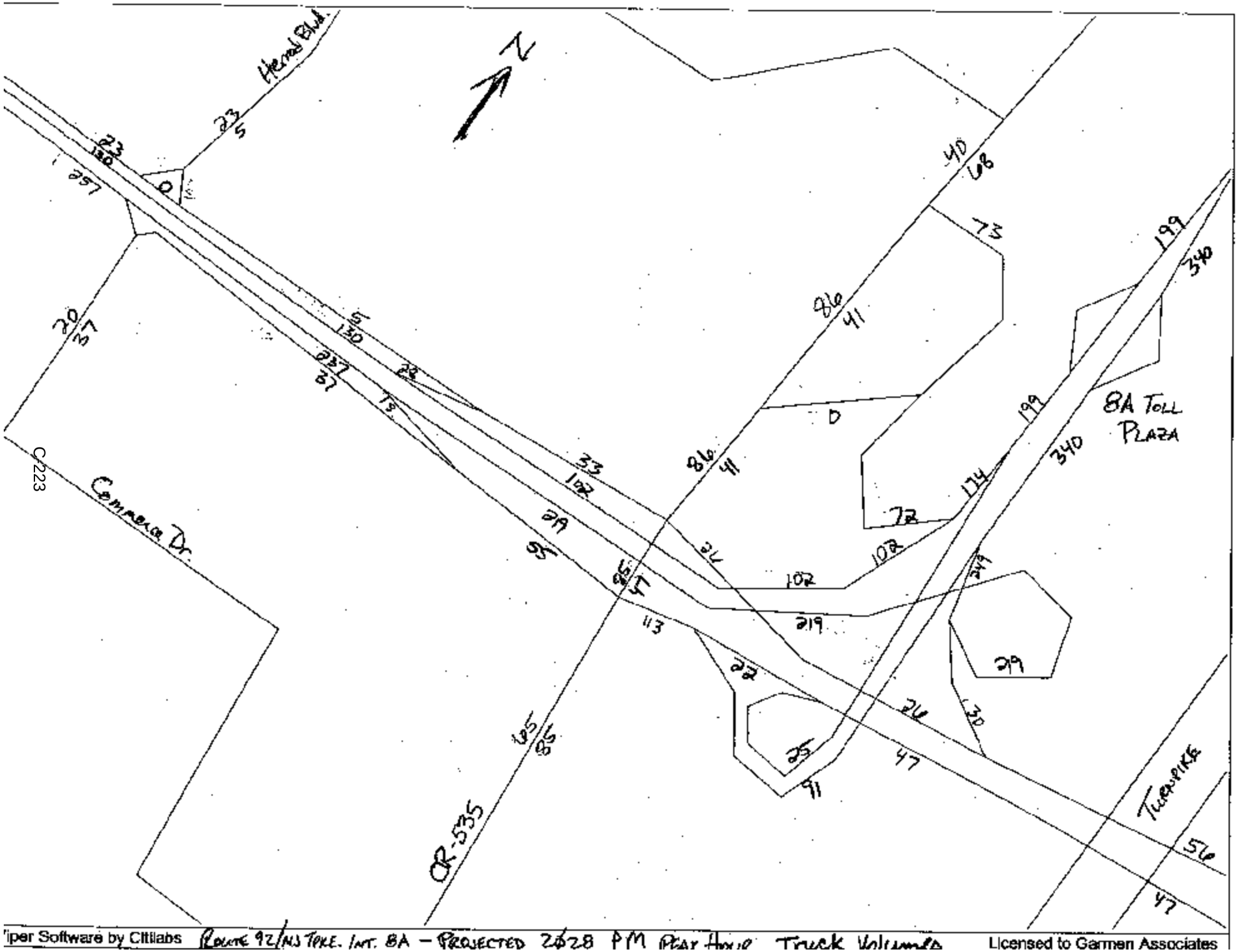

Herod Blvd.
N
Commerce Dr.
CR-535
8A Toll Plaza
Turnpike
Licensed to Garmen Associates



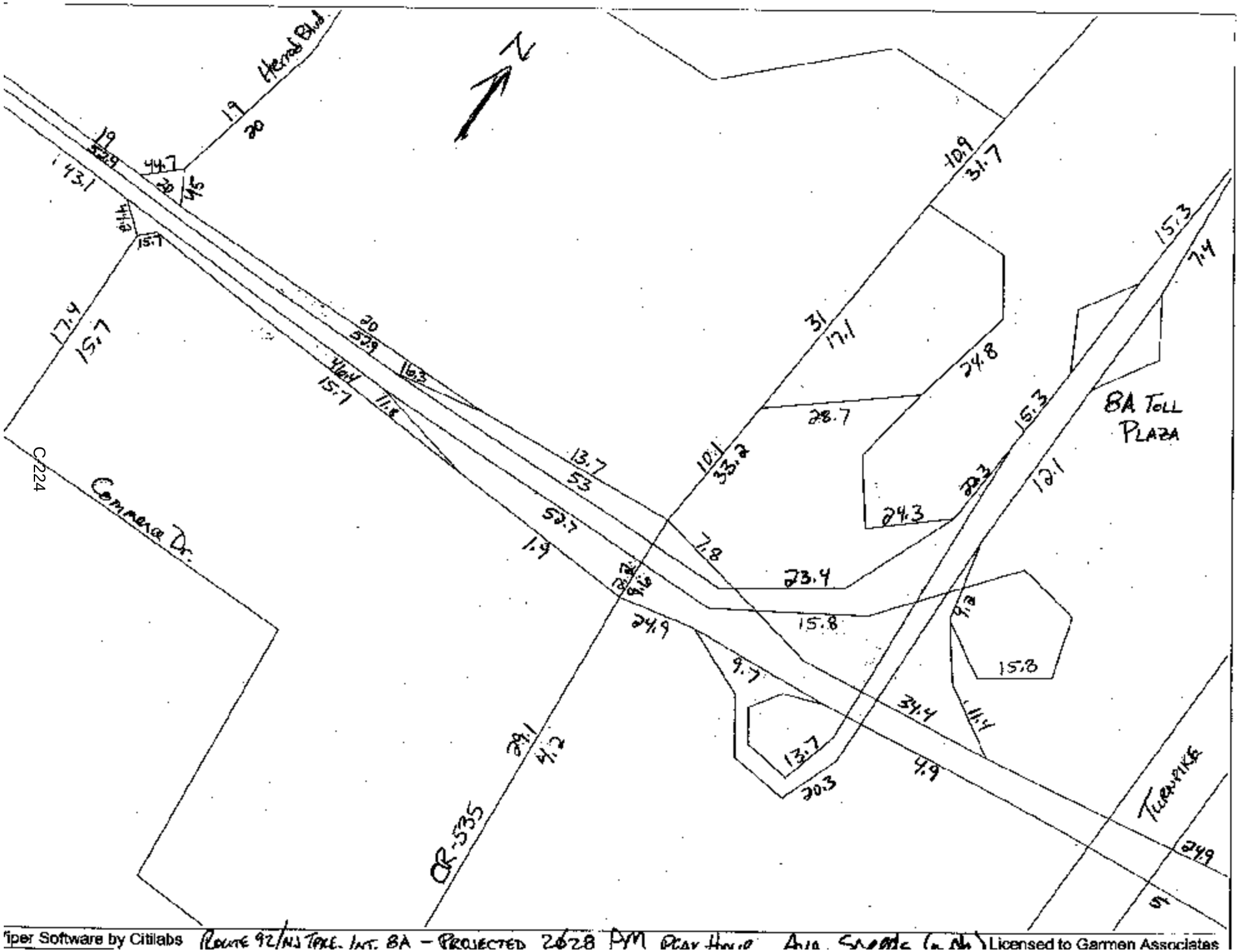
Viper Software by Citilabs (Route 92/NJ Tpke. Int. 8A – Projected 2028 AM Peak Hour Avg. Speeds (mph)) Licensed to Garmen Associates



Viper Software by Citilabs Route 92/NJ Turnpike Int. 8A – Projected 2028 AM Peak Hour Auto Volumes Licensed to Garmen Associates

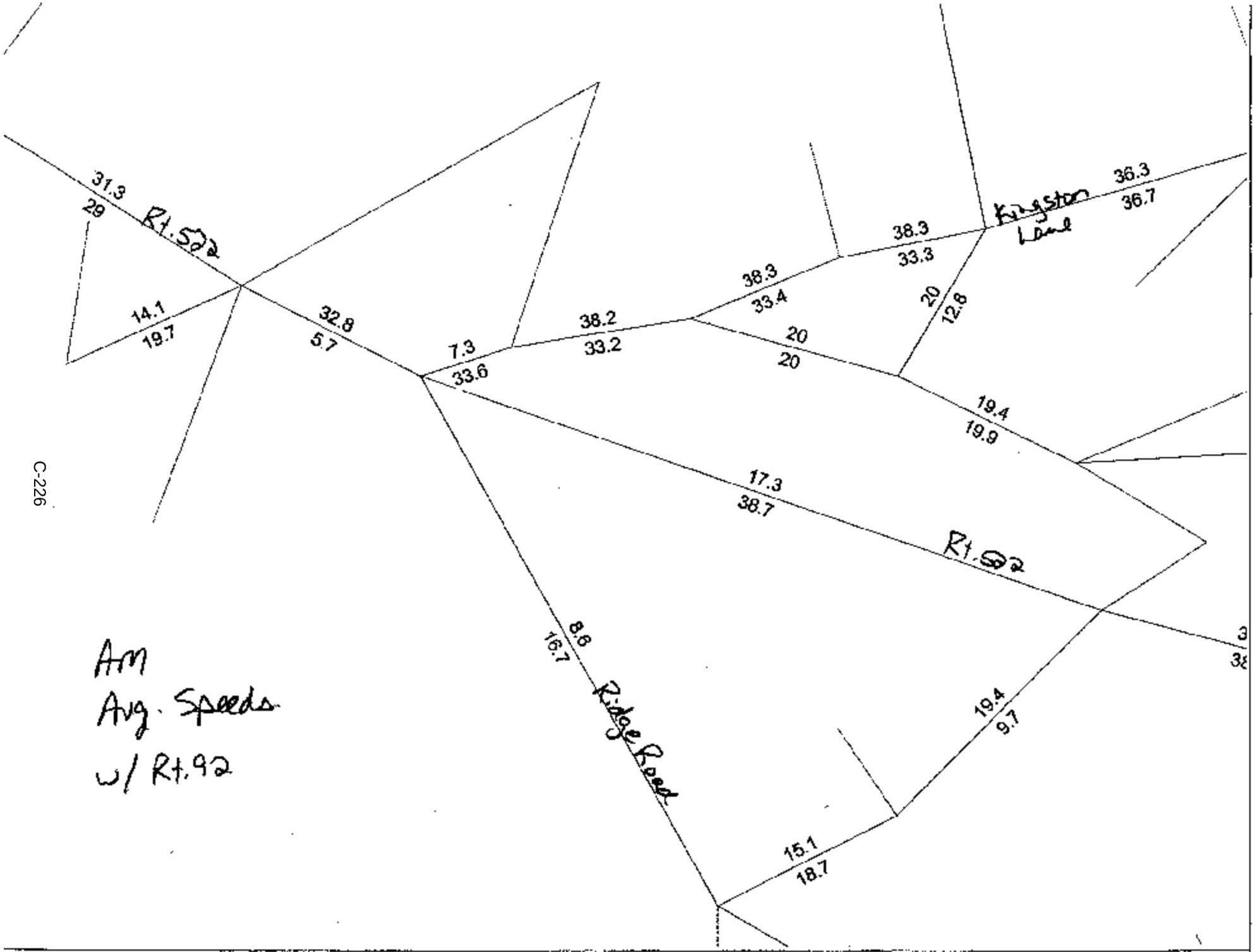


Tiper Software by Citilabs Route 92/NJ Tpke. Int. 8A – Projected 2028 PM Peak Hour Truck Volumes Licensed to Garmen Associates

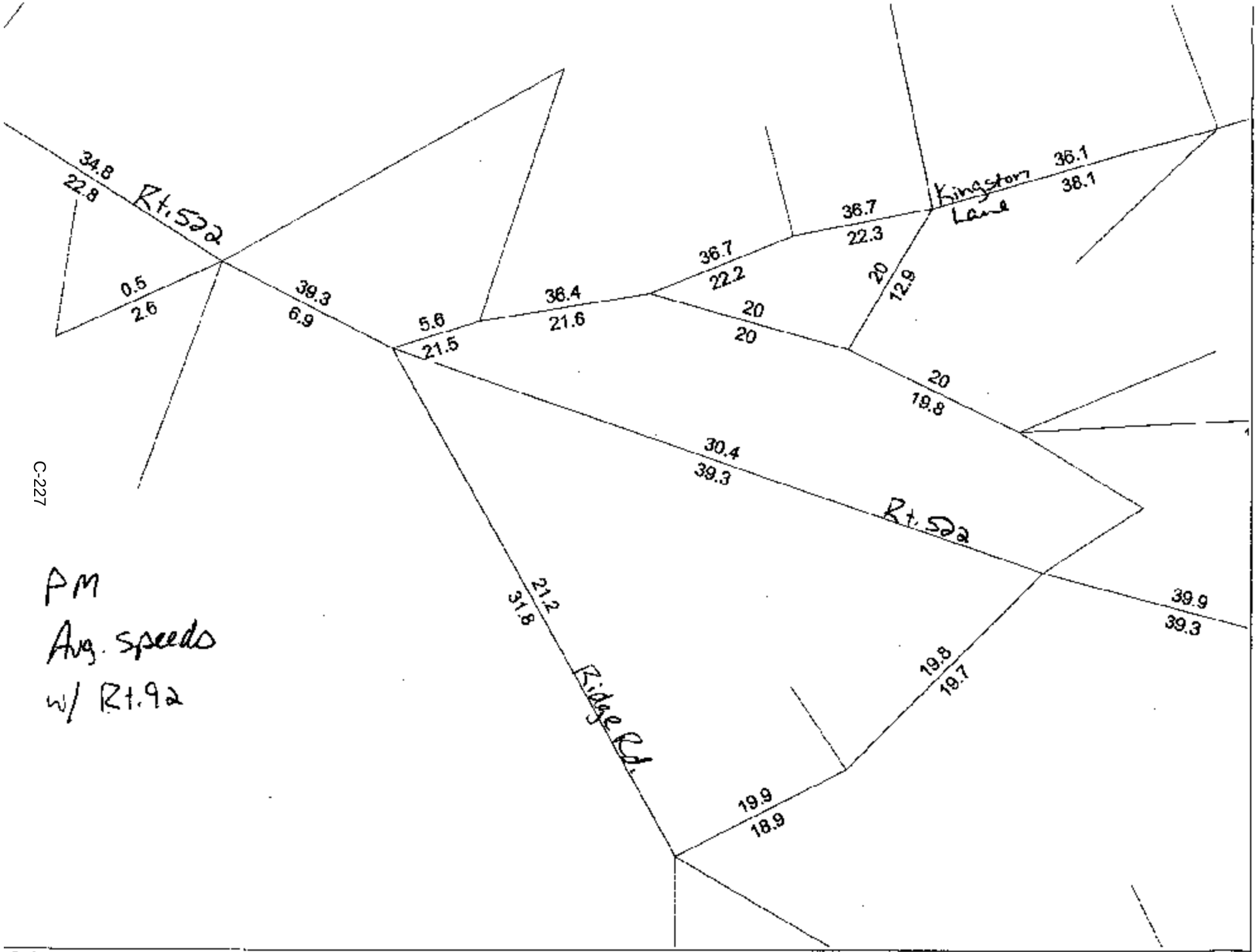


Tiper Software by Citilabs Route 92/NJ Tpke. Int. 8A – Projected 2028 PM Peak Hour Aug. Smooth (w. Alt.) Licensed to Garmen Associates

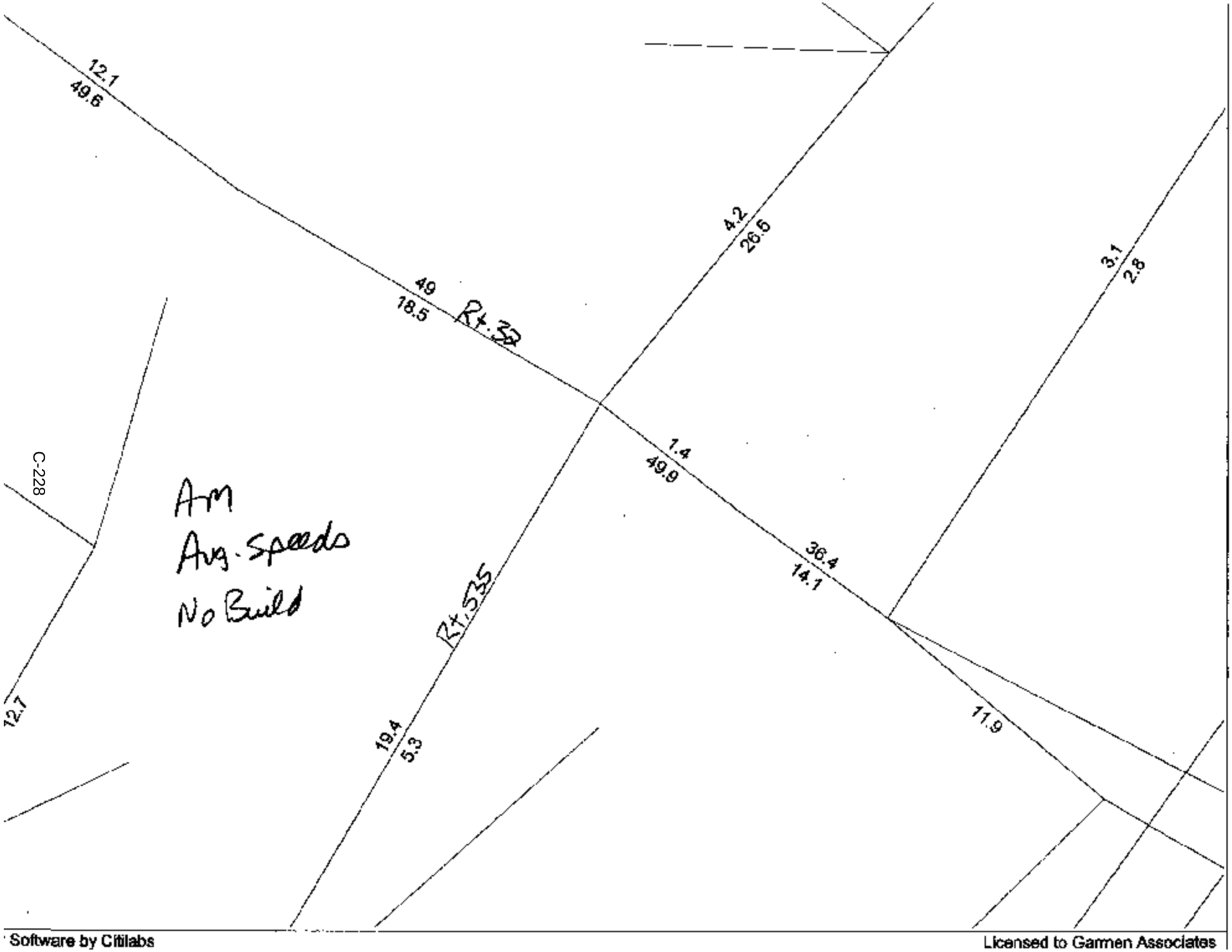
2.4 2028 Build Route 92 – Four Intersections

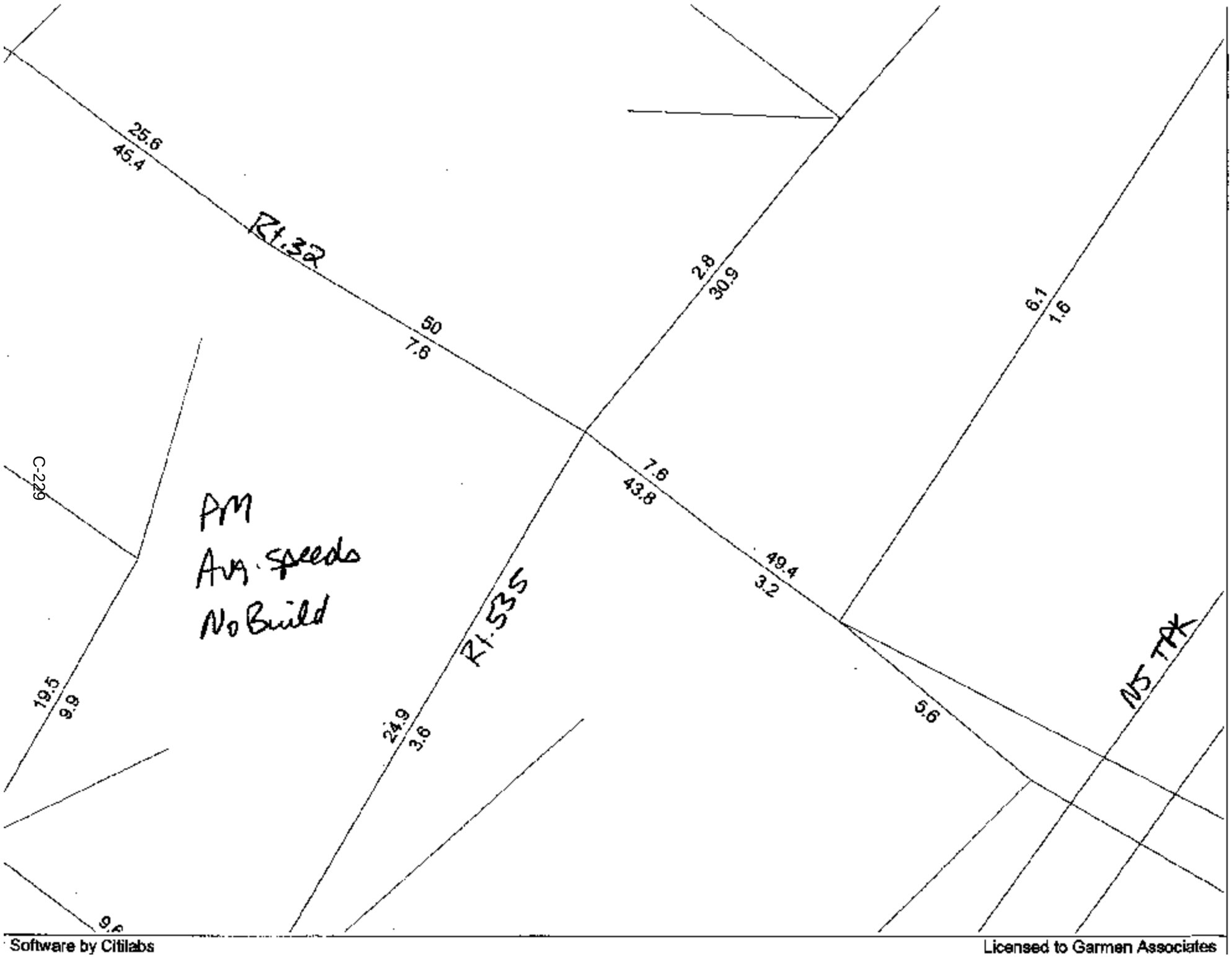


Software by Citilabs
Licensed to Garmen Associates

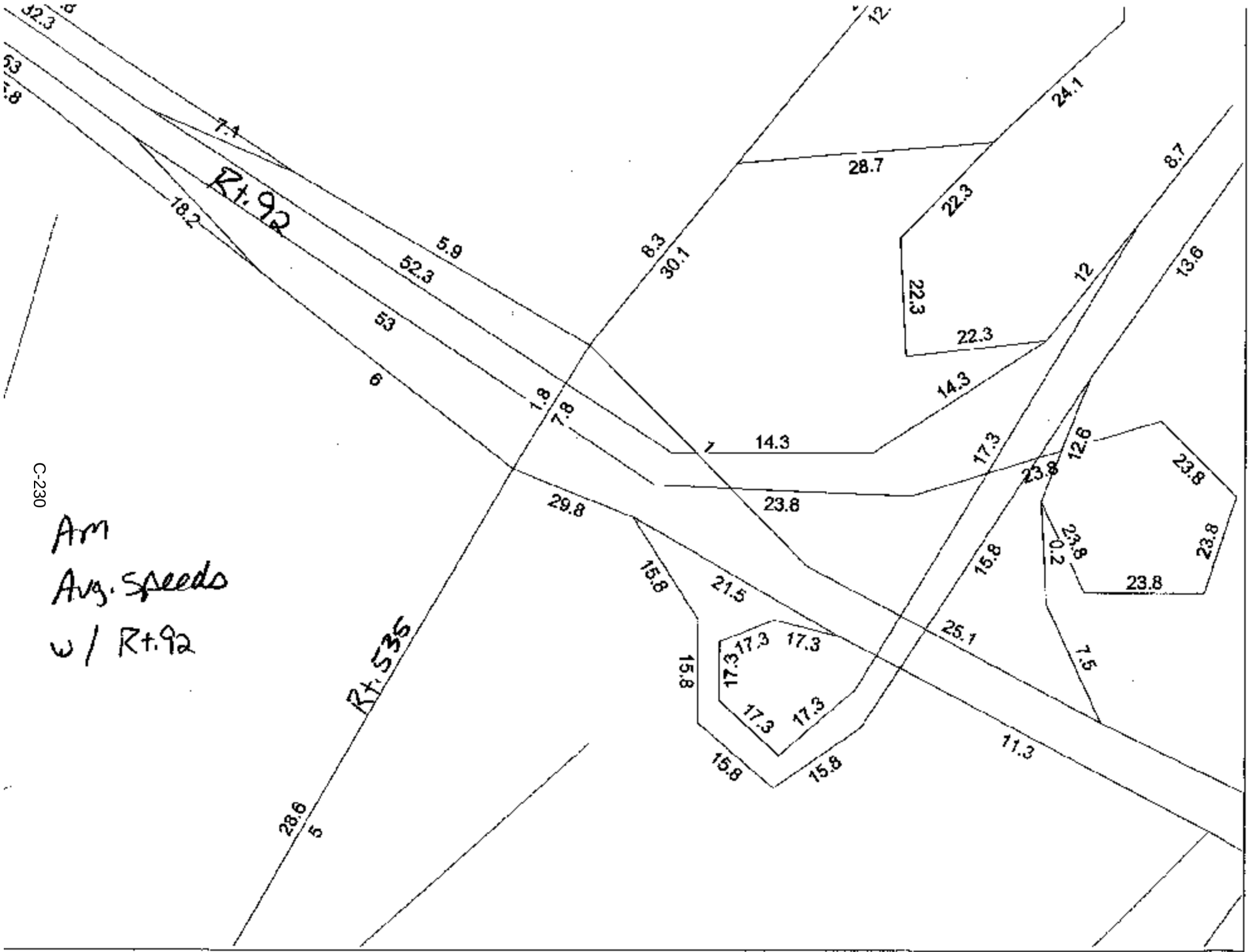


Software by Citilabs
Licensed to Garmen Associates


12.1
49.6
49
18.5
Rt. 30
4.2
26.6
3.1
2.8
1.4
49.9
36.4
14.1
11.9
Rt. 535
19.4
5.3
12.7
AM
Avg. Speeds
No Build
Software by Citilabs
Licensed to Gannen Associates

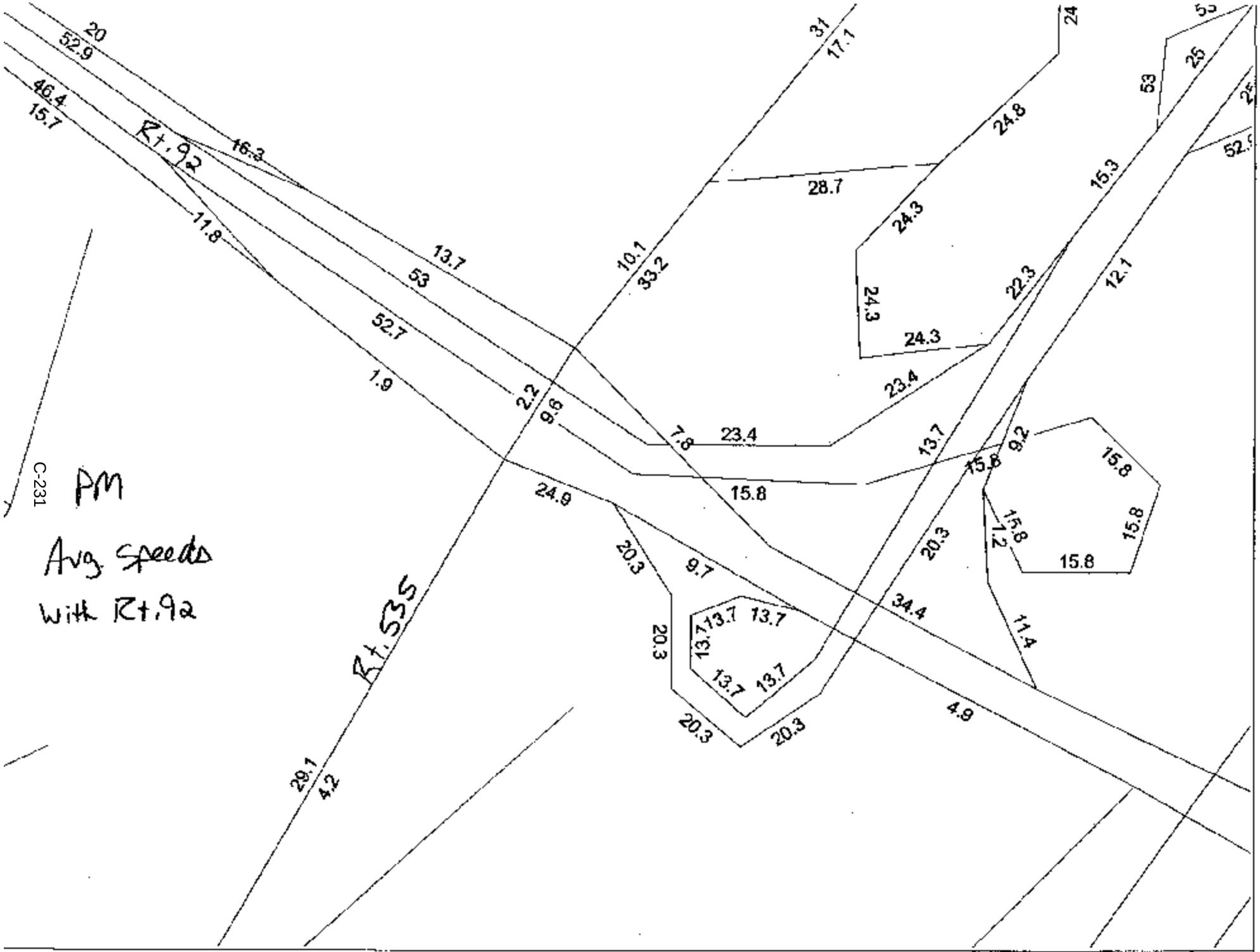


Software by Citilabs
Licensed to Garmen Associates



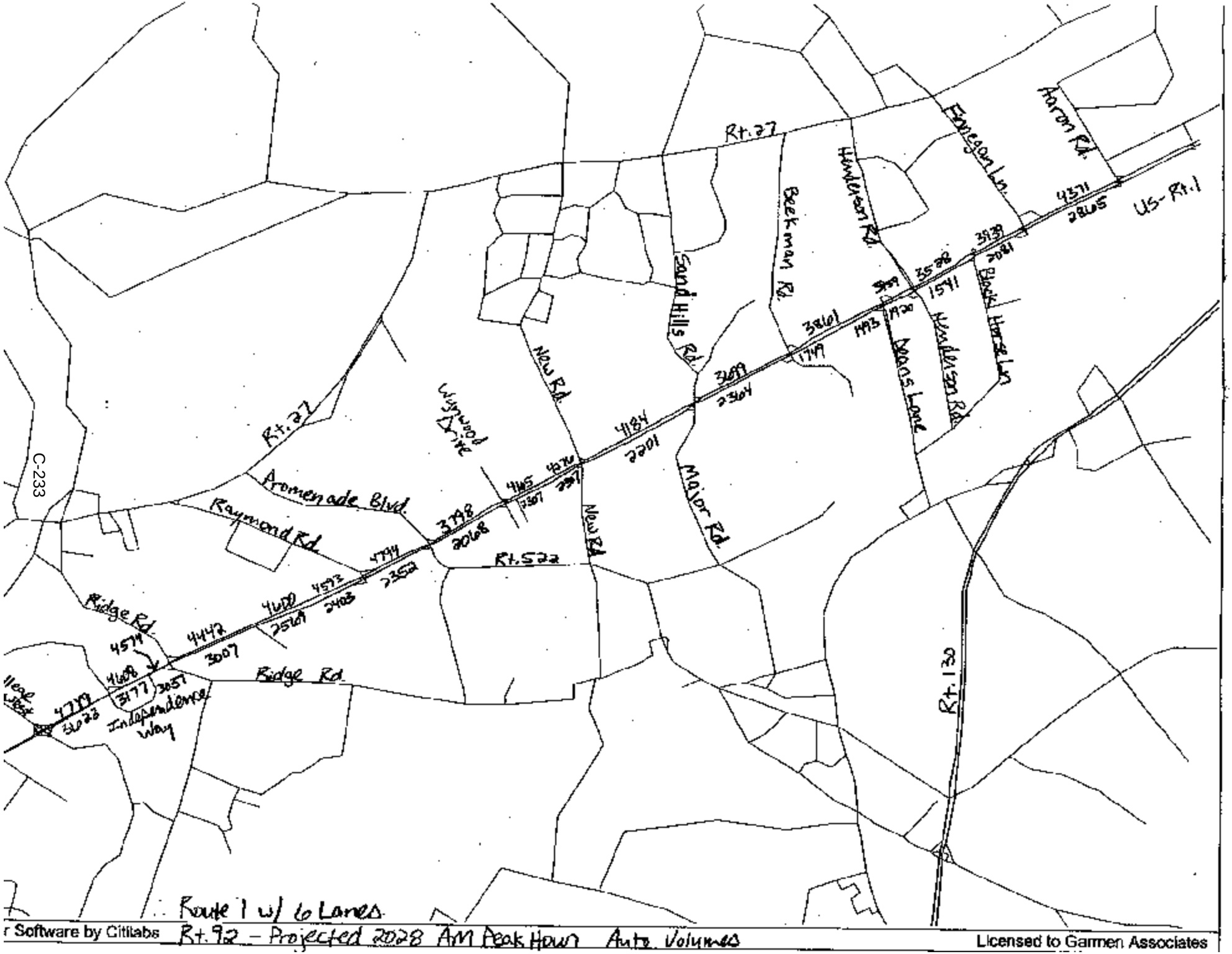
Software by Citilabs

Licensed to Garmen Associates



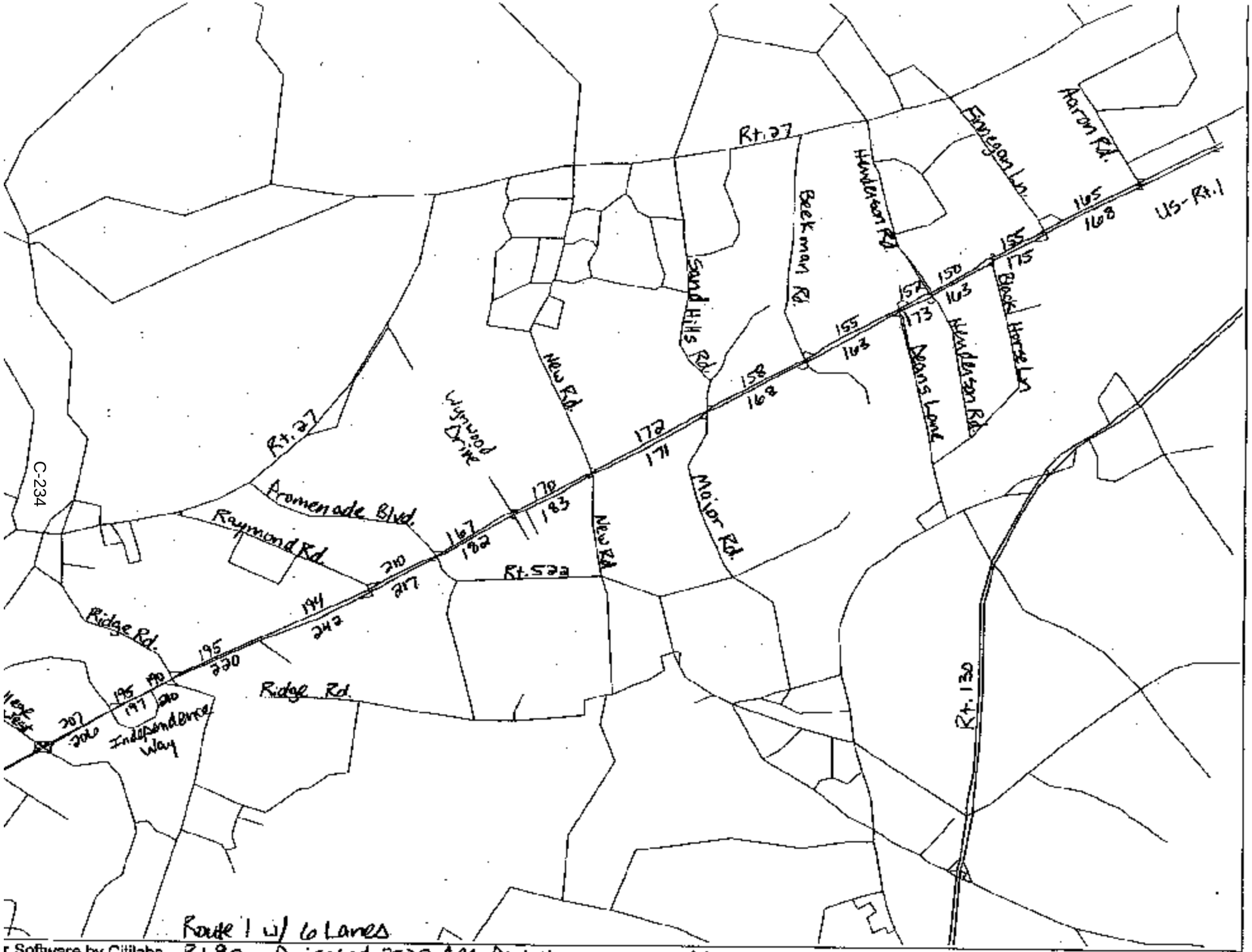
Software by Citilabs
Licensed to Garmen Associates

2.5 2028 Six-Lane Route 1 – Route 1 Mid-Block (College Rd. to Aaron Rd.)



r Software by Citilabs

Licensed to Garmen Associates

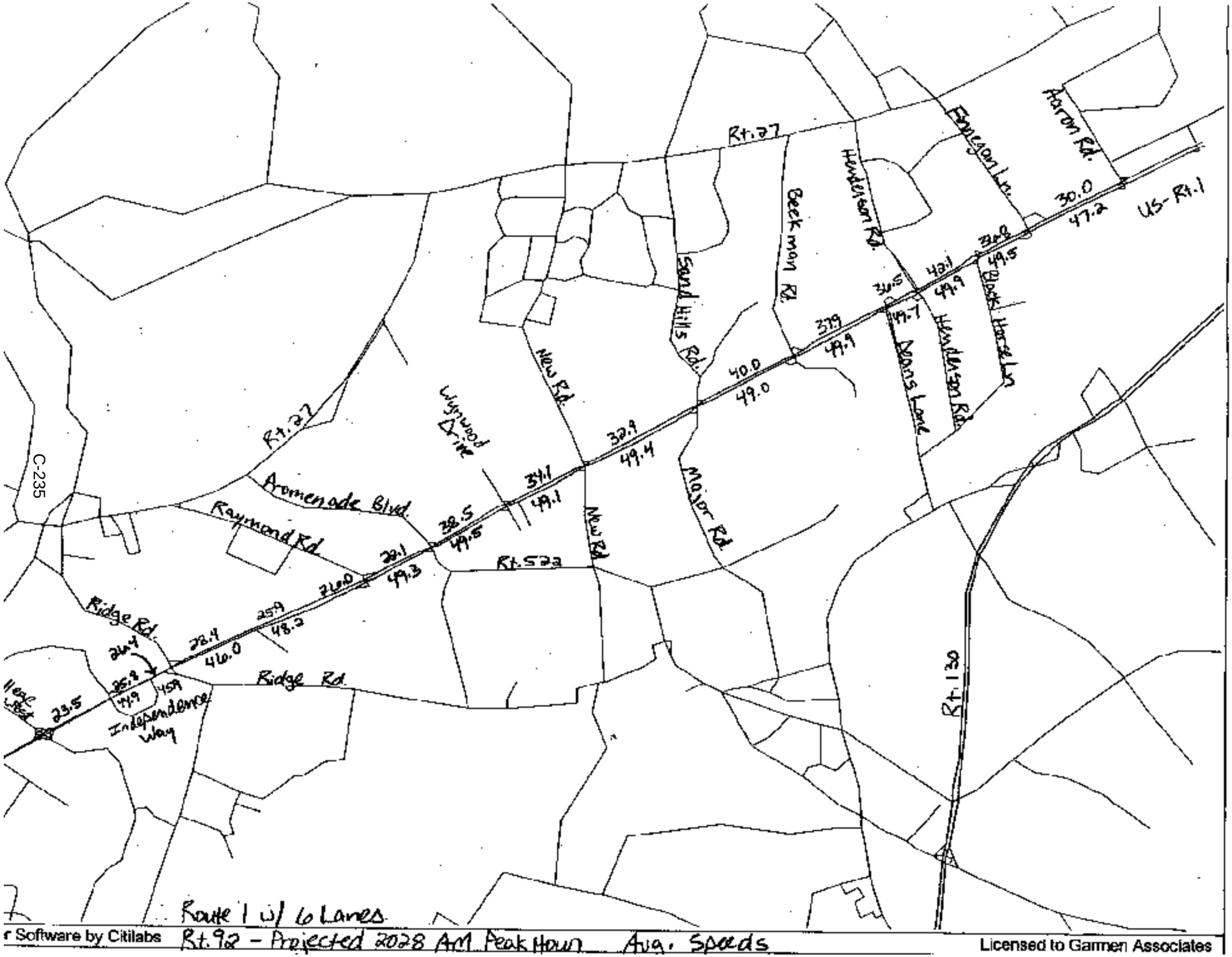


Route 1 w/ 6 Lanes

Rt. 92 - Projected 2028 AM Peak Hour Truck Volumes

r Software by Citilabs

Licensed to Garmen Associates

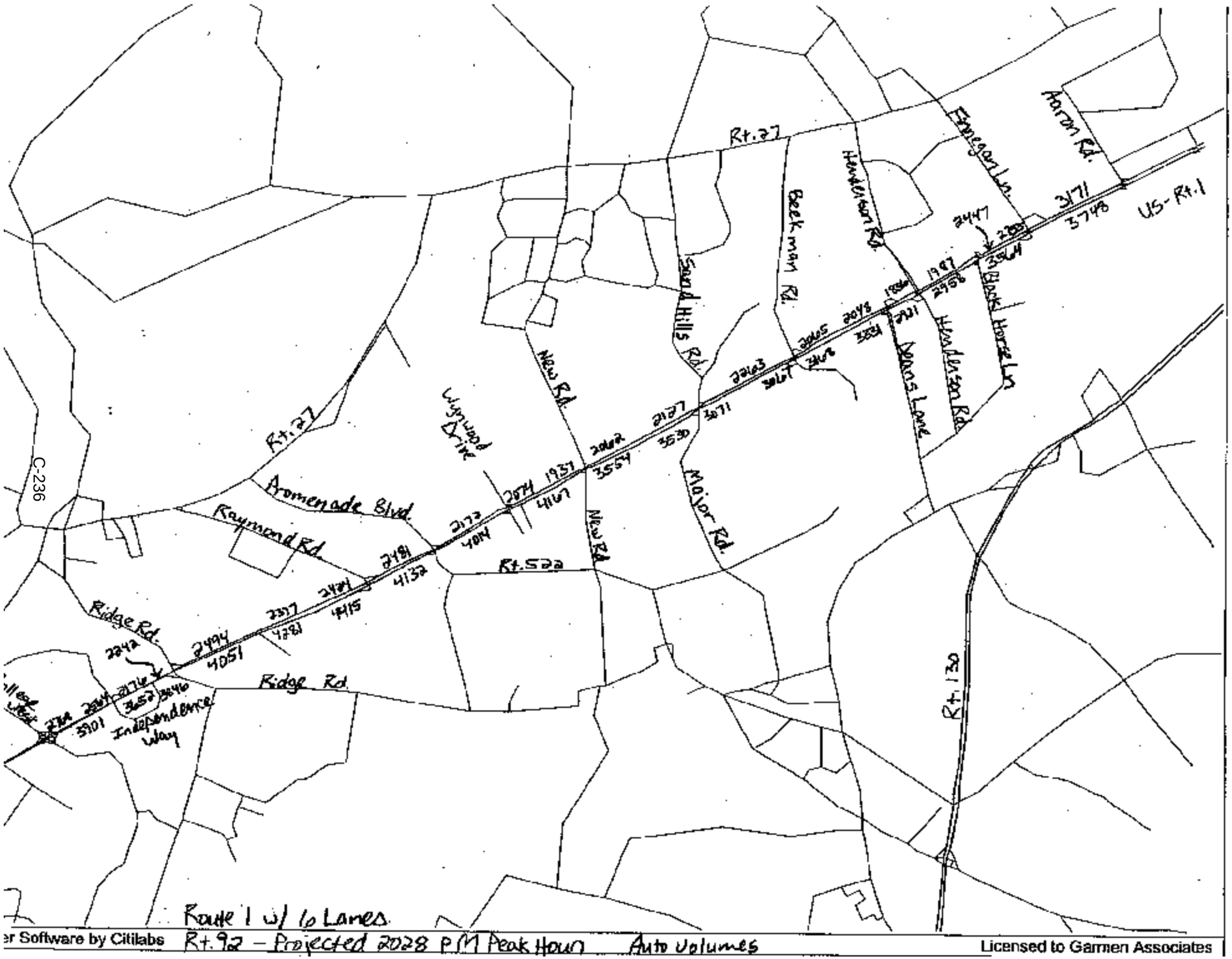


Route 1 w/ 6 Lanes

Rt. 92 - Projected 2028 AM Peak Hour Avg. Speeds

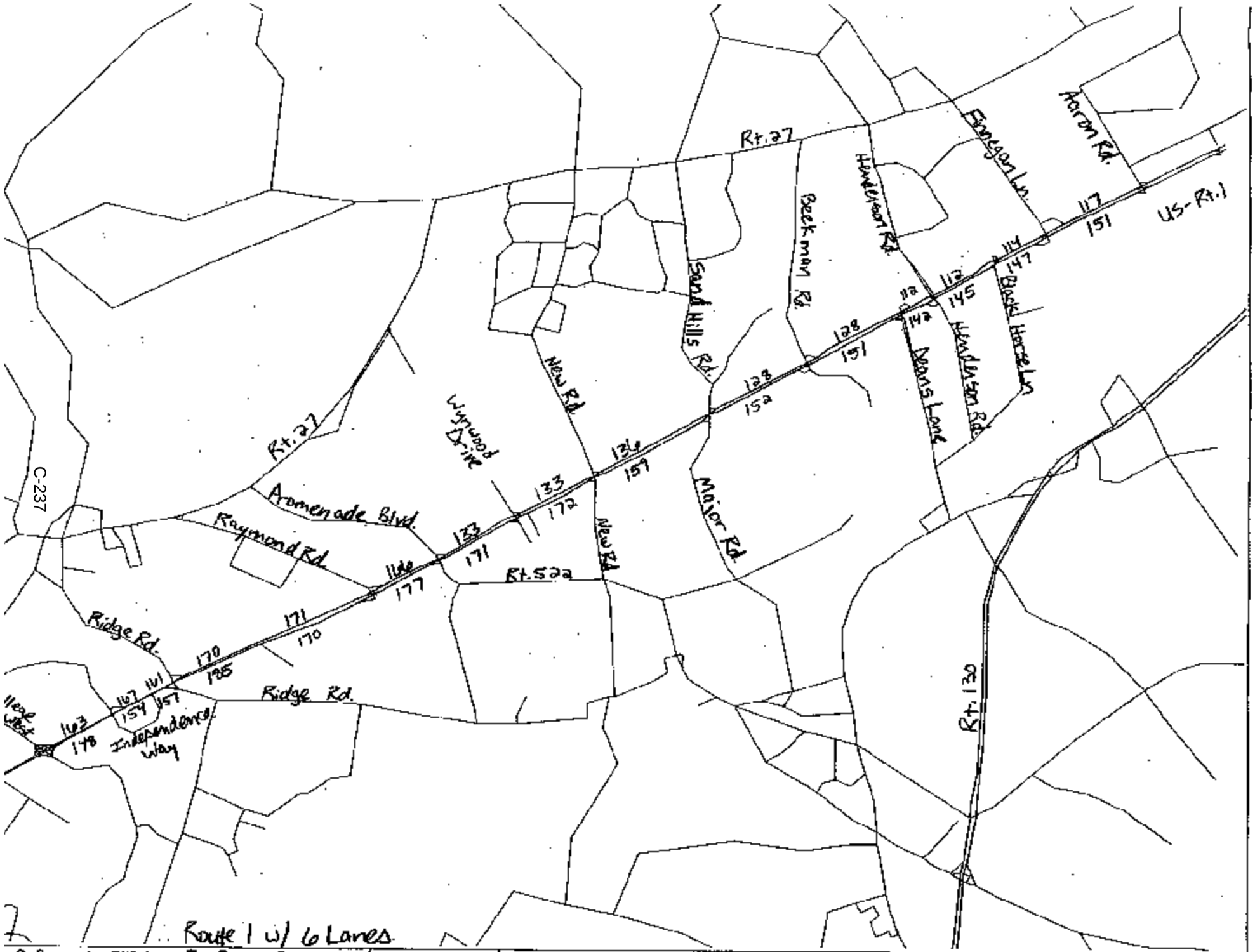
r Software by Citilabs

Licensed to Garmen Associates

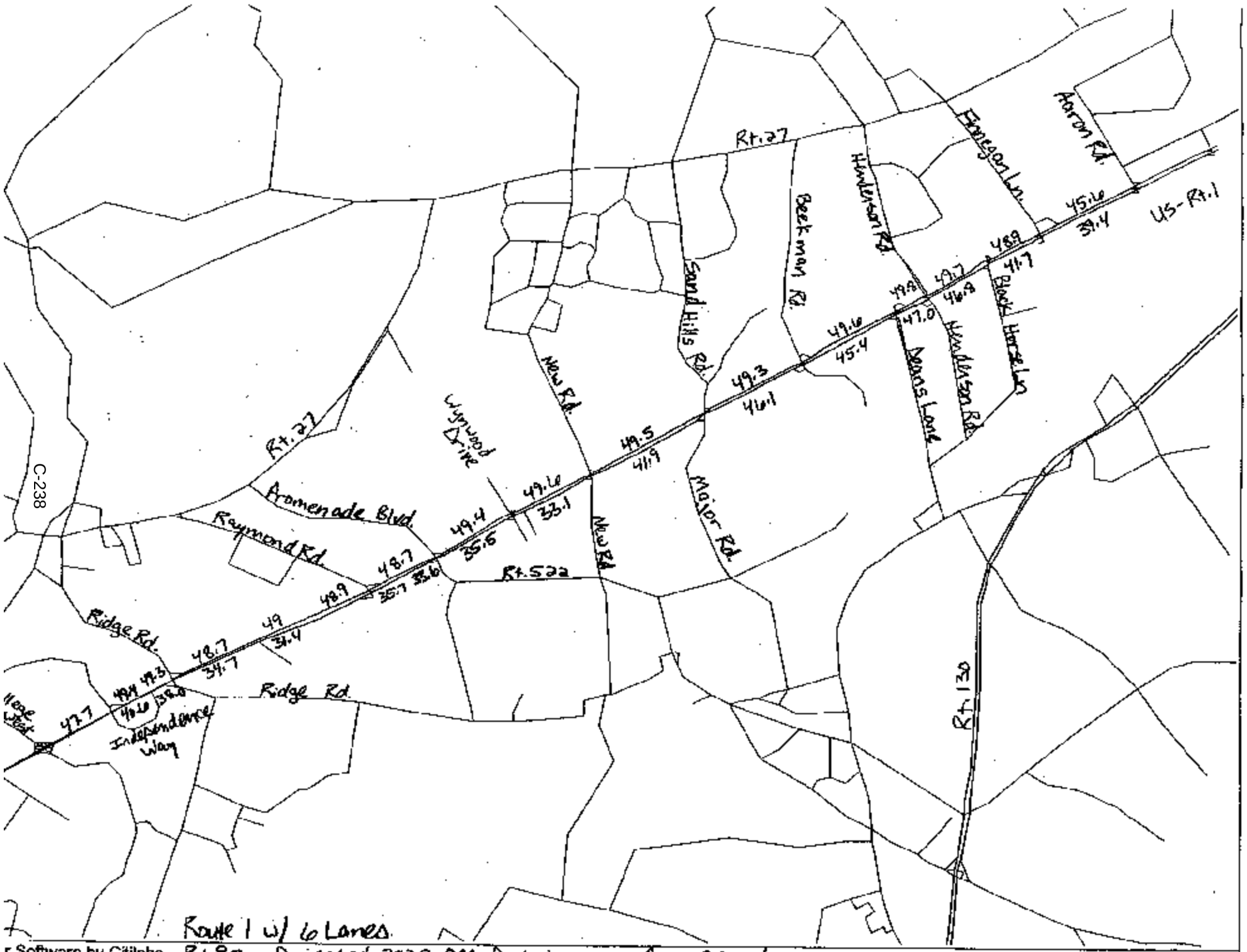


er Software by Citilabs

Licensed to Garmen Associates



r Software by Citilabs
Licensed to Garmen Associates



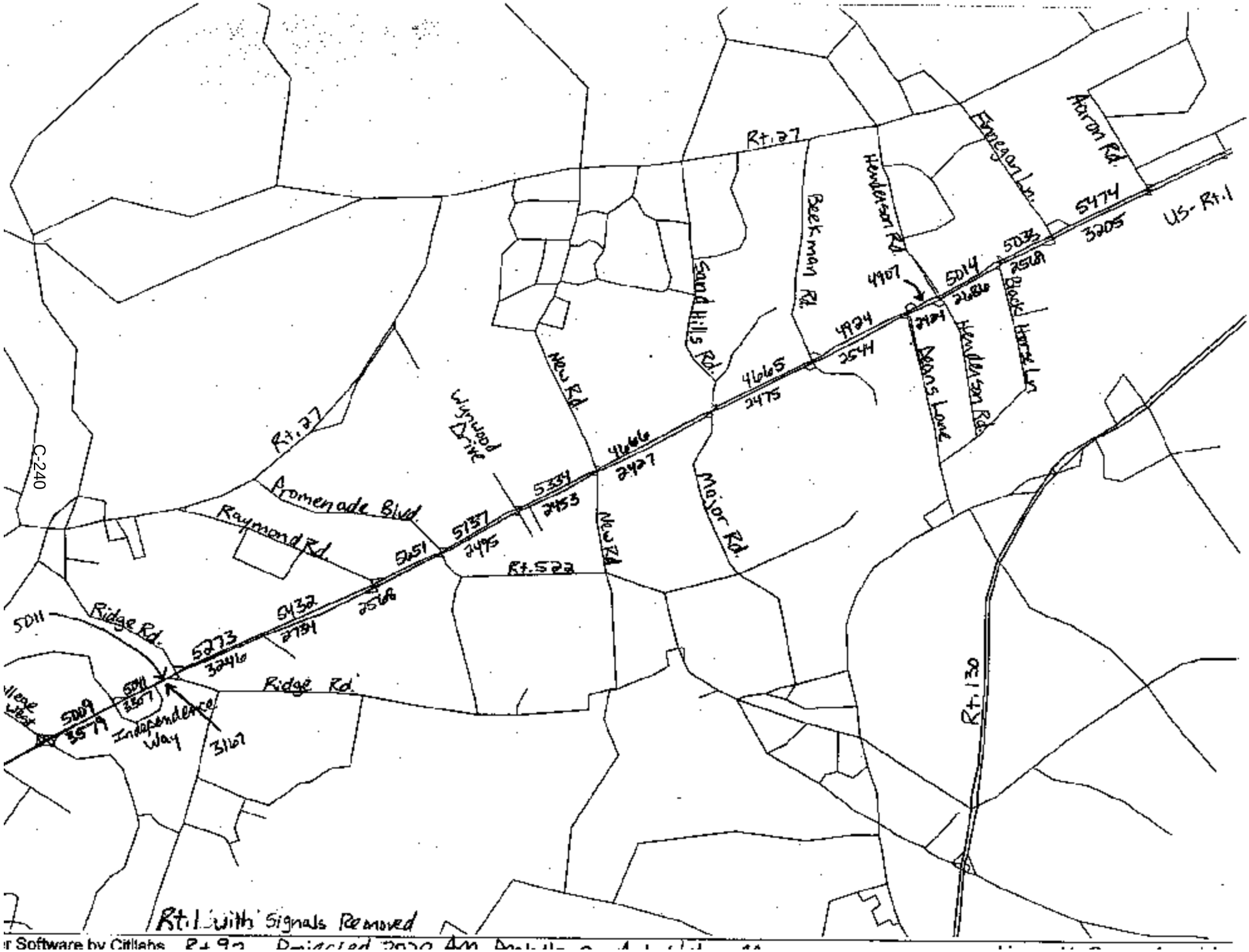
Route 1 w/ 6 Lanes

Rt. 92 – Projected 2028 PM Peak Hour Avg. Speeds.

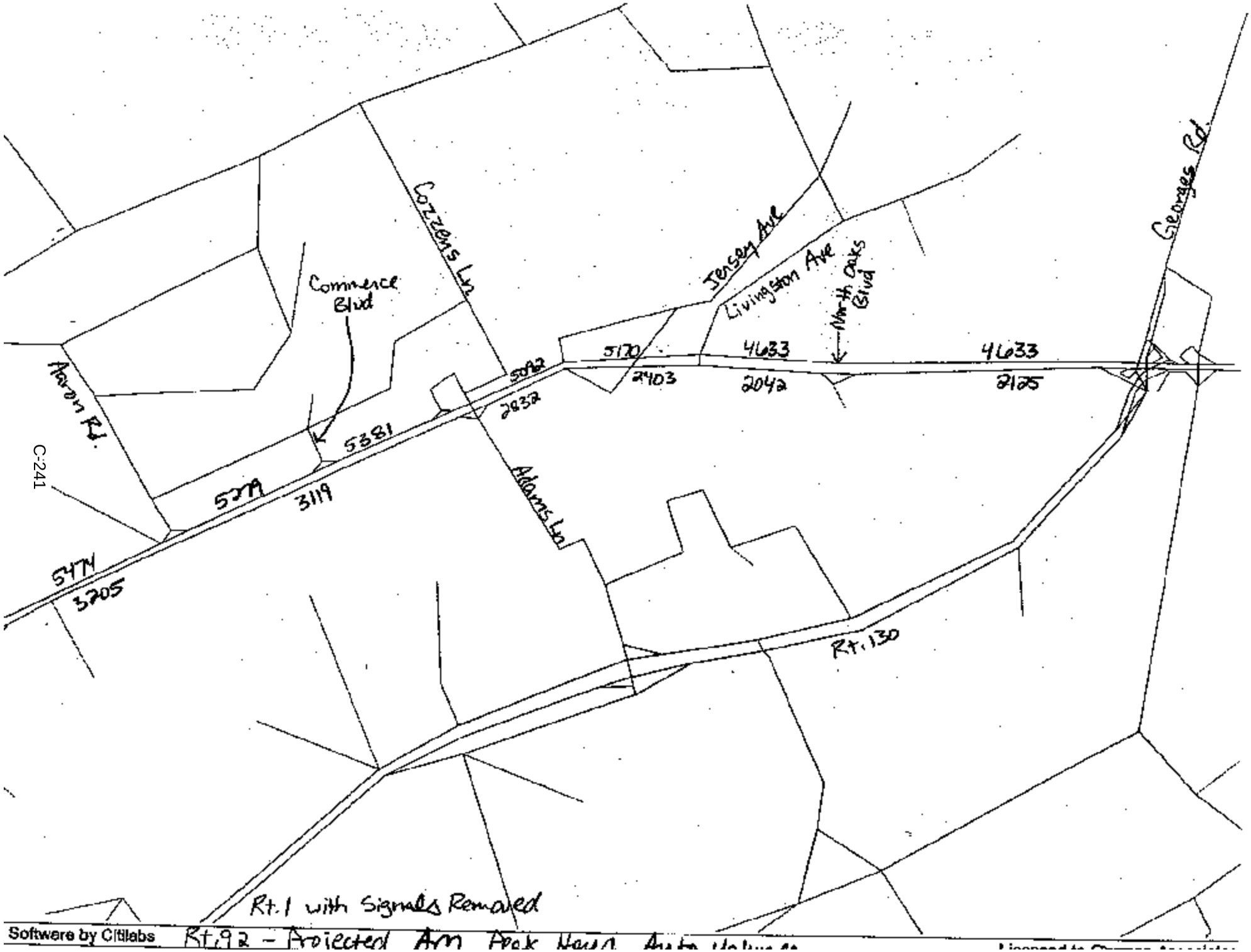
r Software by Citilabs

Licensed to Garmen Associates

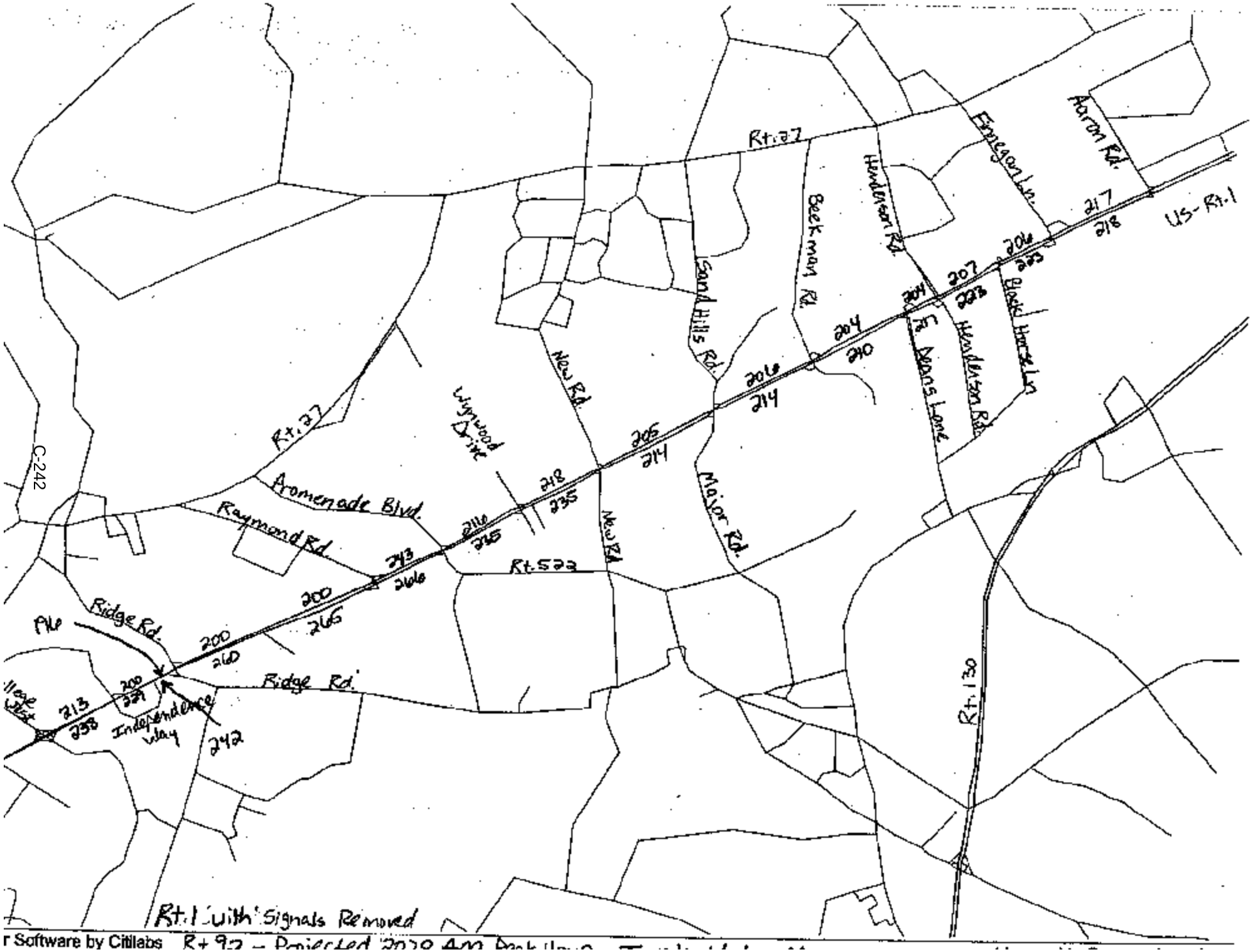
2.6 2028 Six-Lane Route 1 w/ Signals Removed – Route 1 Mid-Block (College Rd. to Rt. 130)



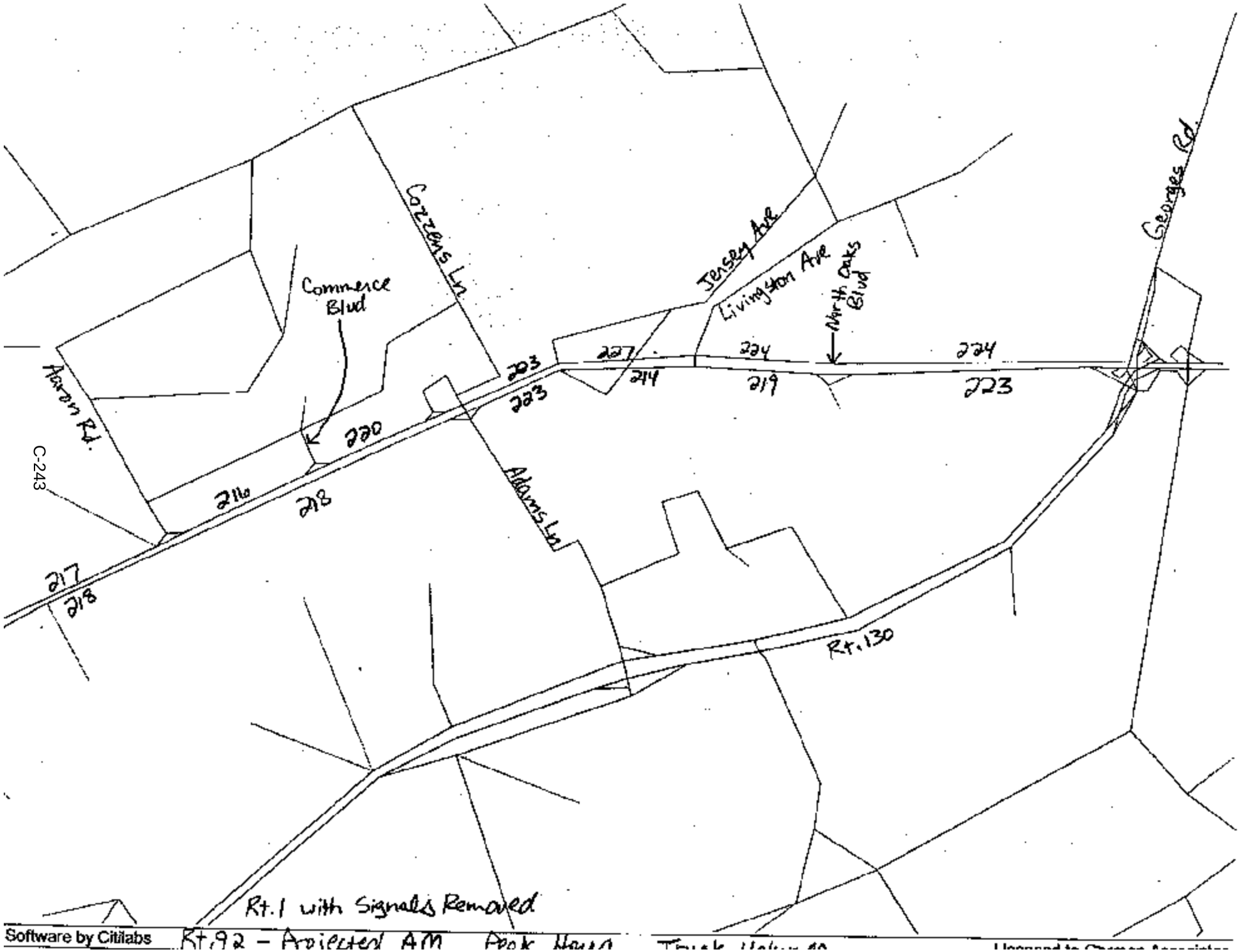
Rt. 1 with Signals Removed

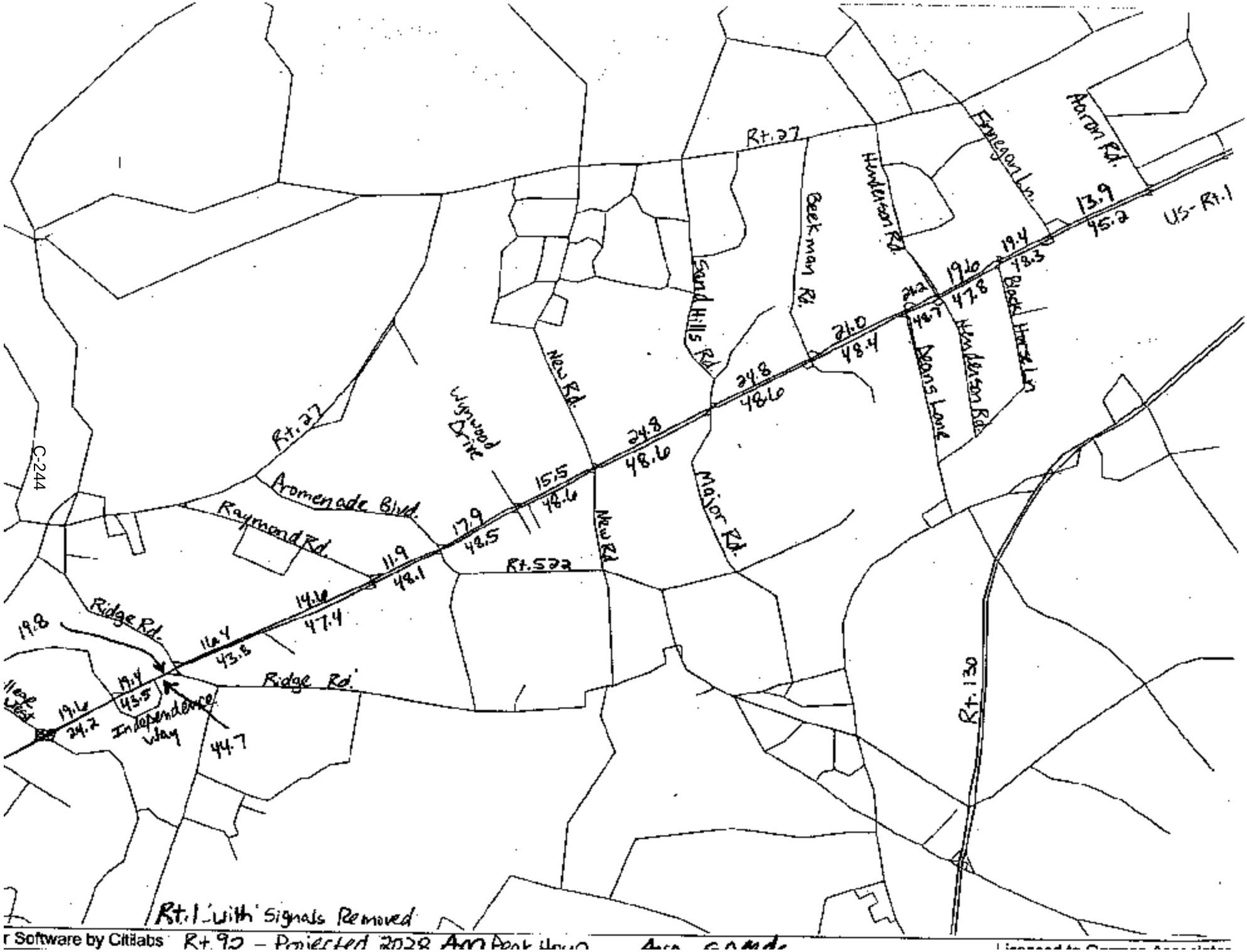


Software by Citilabs

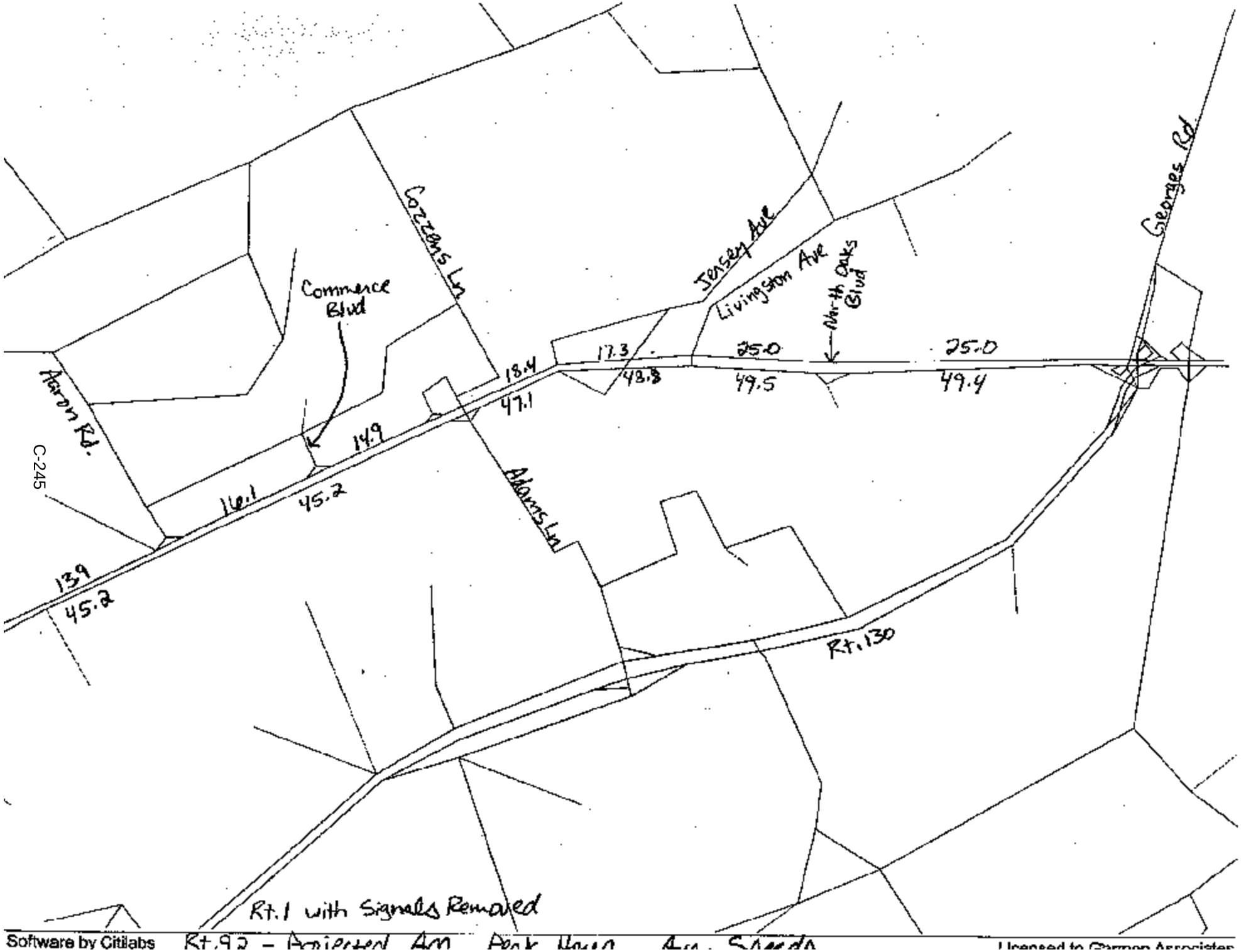


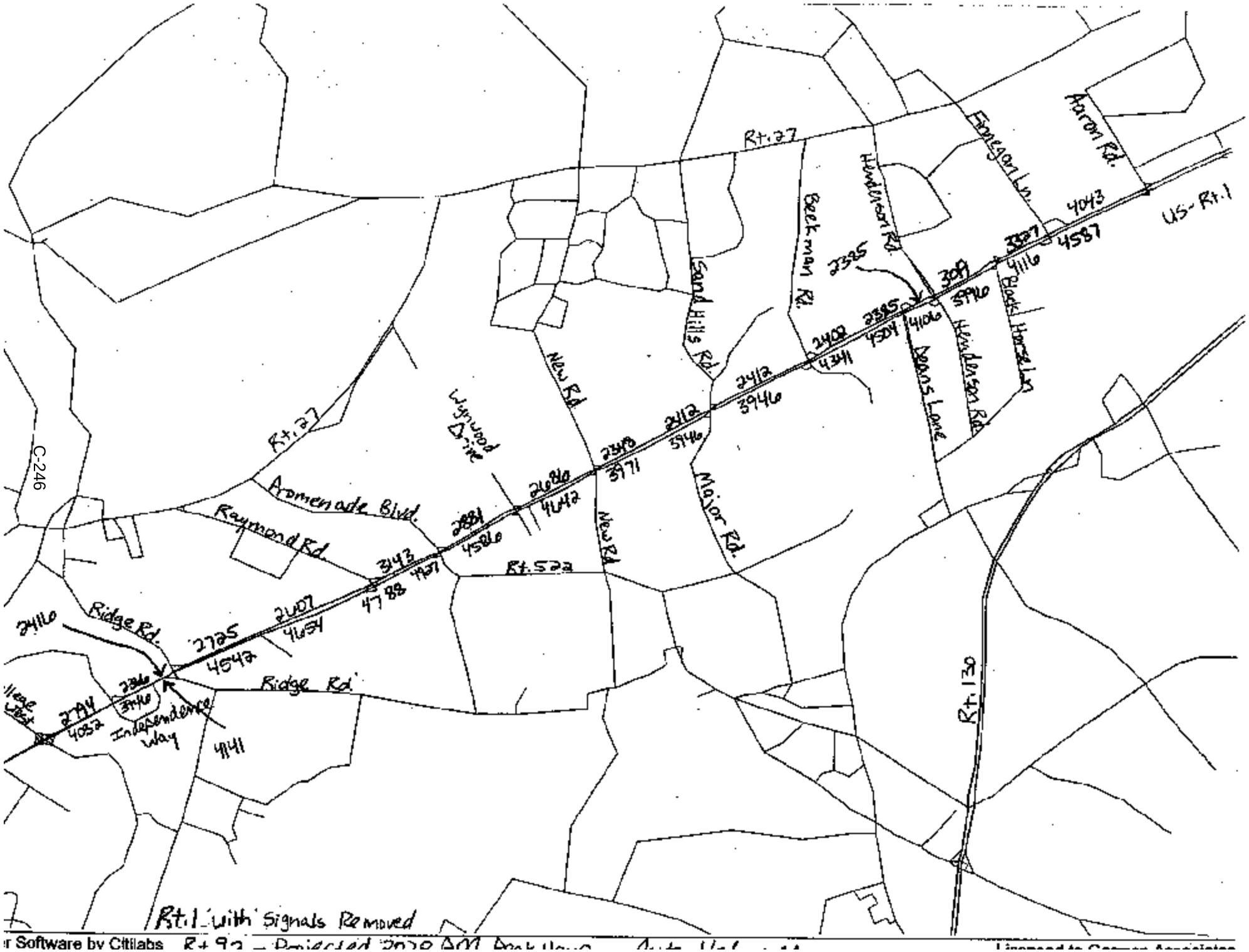
r Software by Citilabs


Commerce Blvd
Cozzens Ln
Jersey Ave
Livingston Ave
North Oaks Blvd
Georges Rd
Aaron Rd.
Adams Ln
Rt.130
Rt.1 with Signals Removed
Software by Citilabs
Rt.92 - Projected AM Peak Hour
203
223
227
214
224
219
224
223
220
211
218
217
218



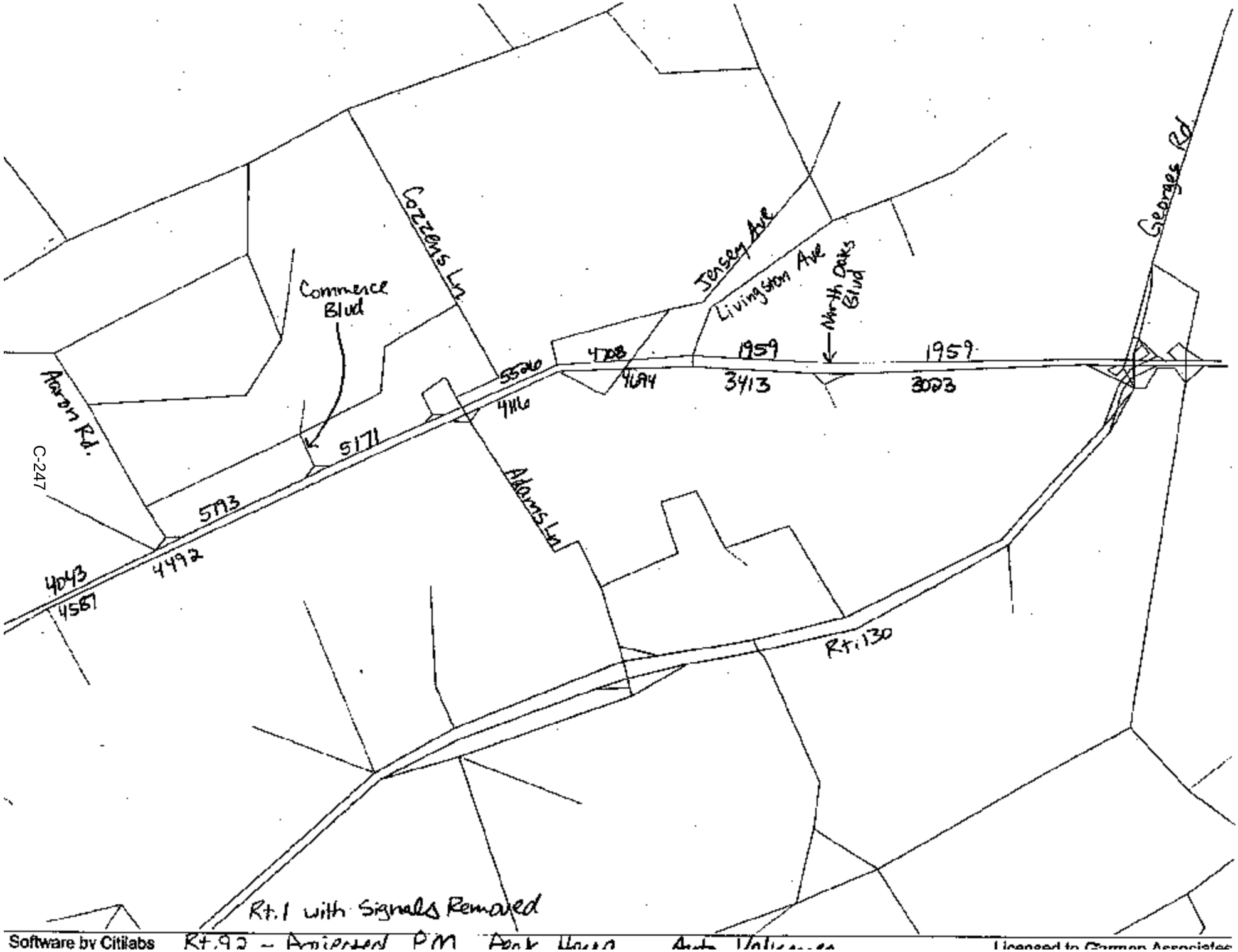
r Software by Citilabs


Cozzens Ln
Jersey Ave
Livingston Ave
North Oaks Blvd
Georges Rd.
Commerce Blvd
Aaron Rd.
Adams Ln
Rt. 130
17.3
25.0
25.0
18.4
48.8
49.5
49.4
47.1
14.9
16.1
45.2
13.9
45.2
Rt. 1 with Signals Removed
Software by Citilabs
Licensed to Carmen Associates

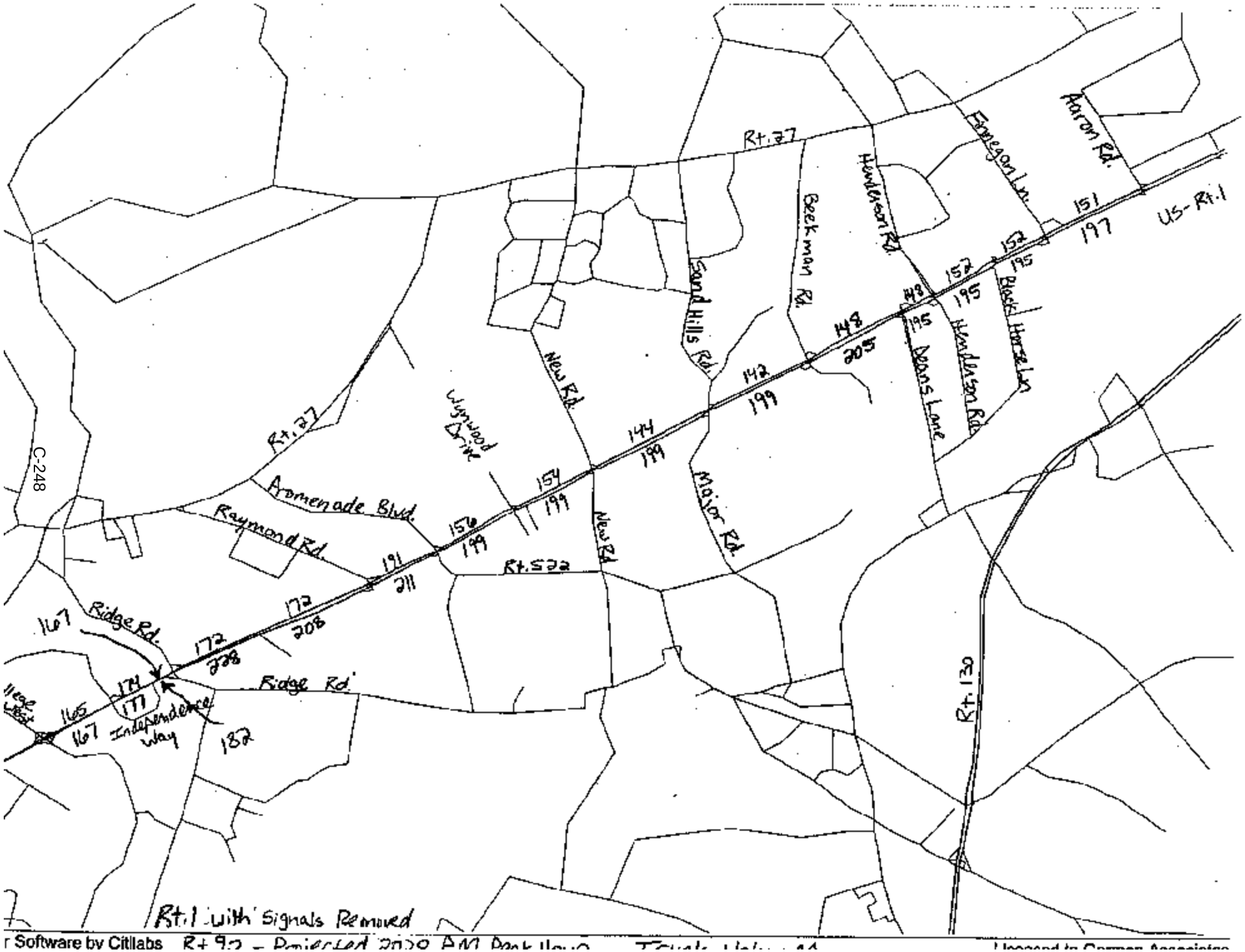


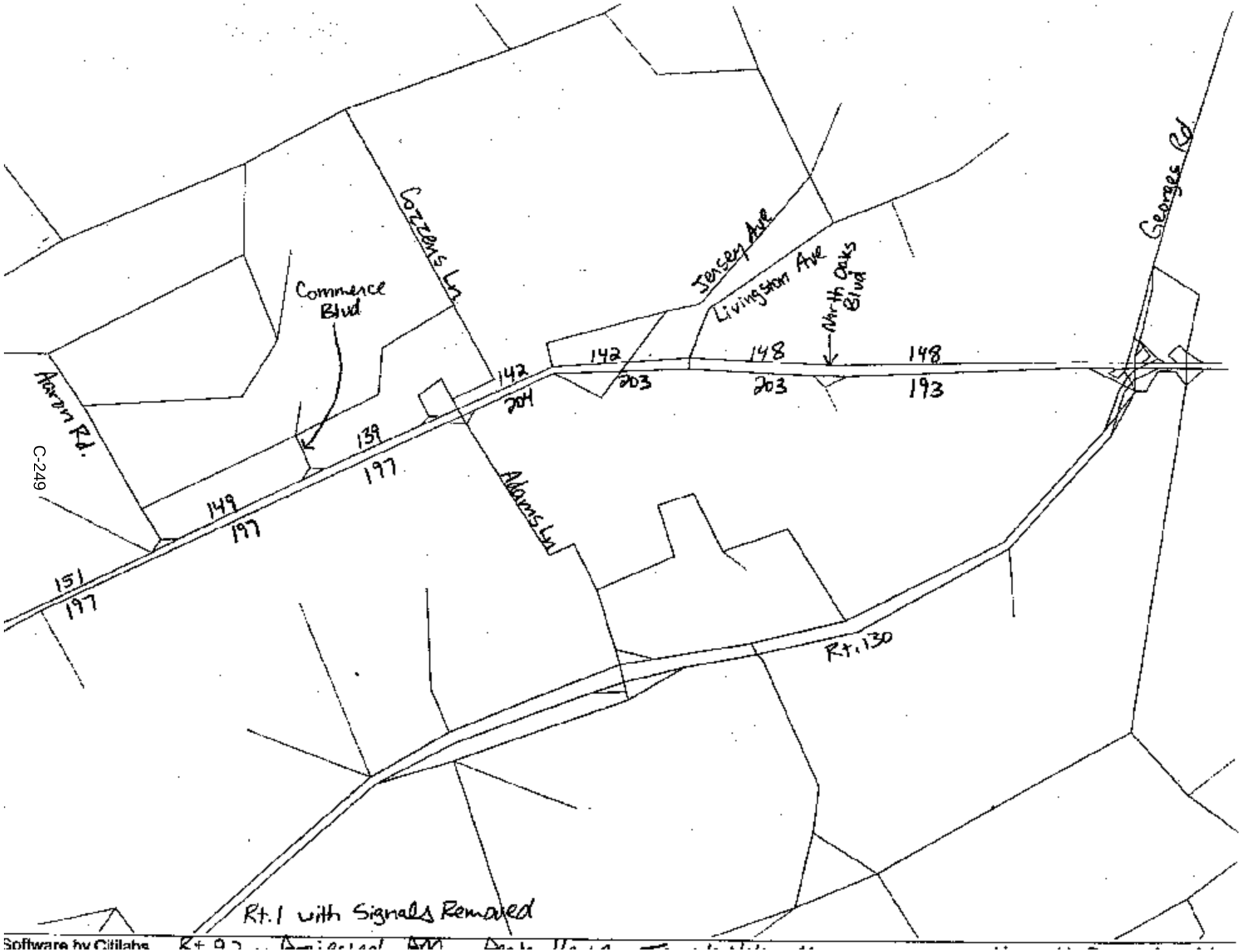
r Software by Citilabs

Licensed to Cameron Associates

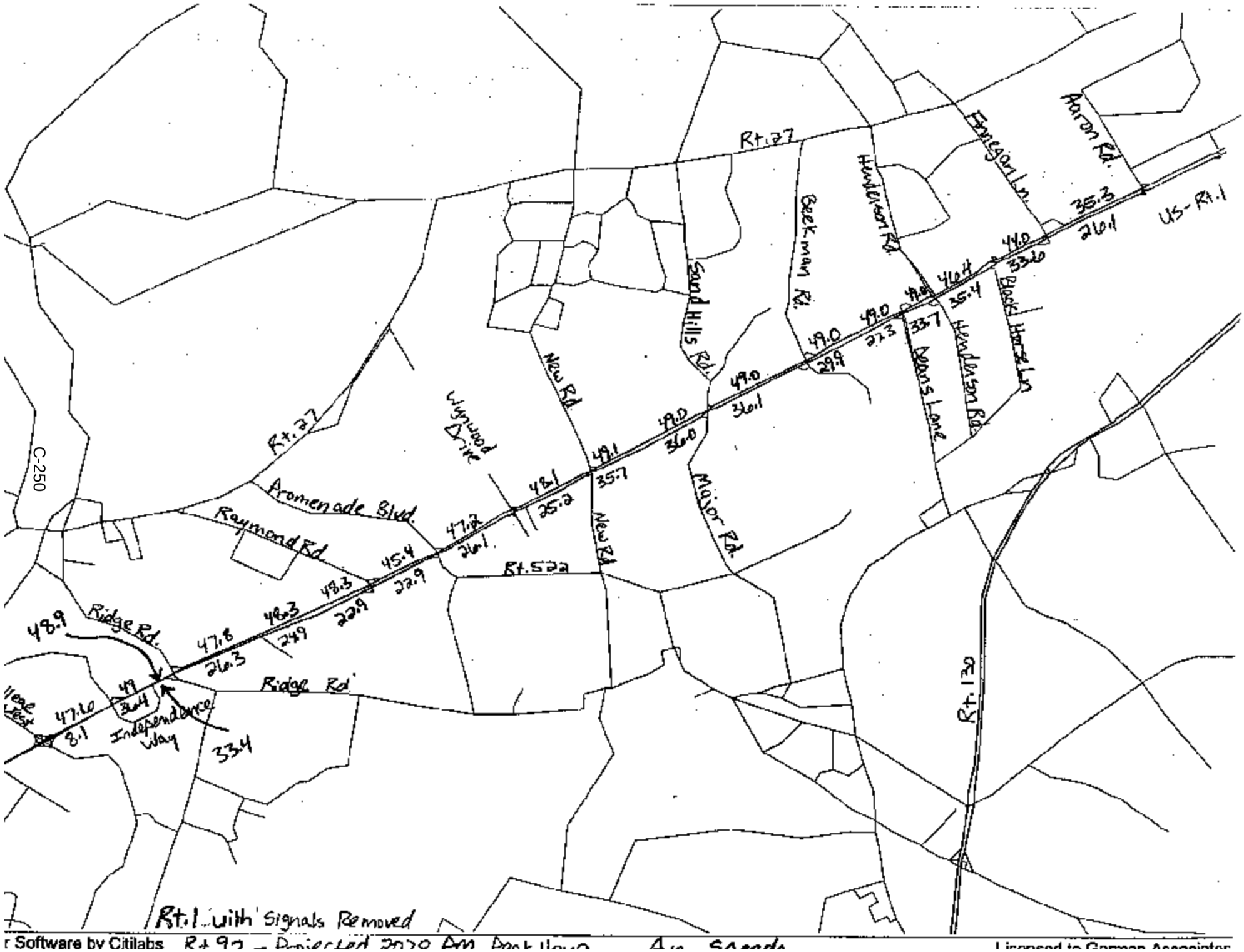


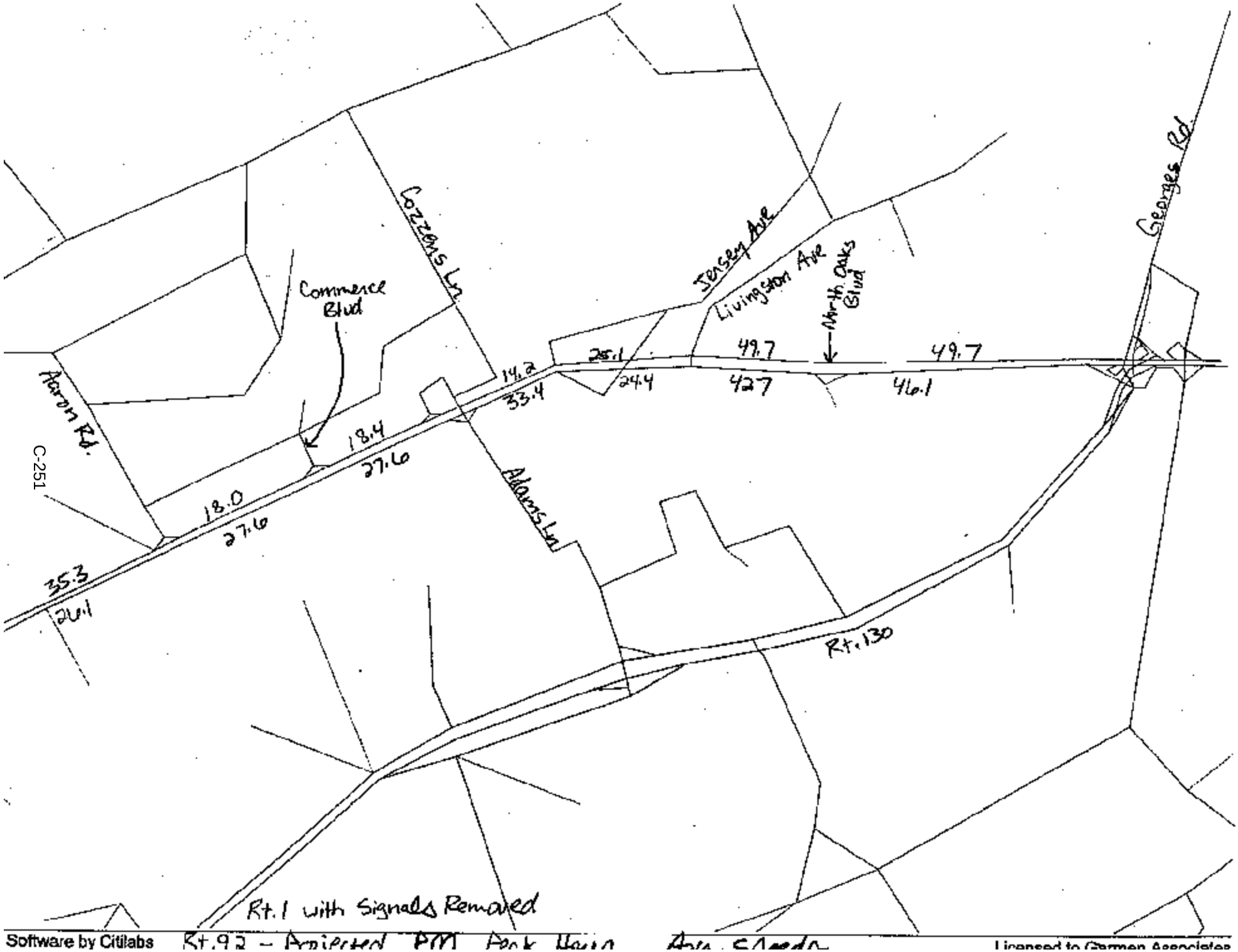
Software by Citilabs
Licensed to Carmen Associates


Rt. 27
Aaron Rd.
Eagleson Ln.
Huntleson Rd.
Beekman Rd.
Sand Hills Rd.
New Rd.
Wynwood Drive
Rt. 27
Promenade Blvd.
Raymond Rd.
Ridge Rd.
Ridge Rd.
Independence Way
Rt. 522
New Rd.
Major Rd.
Deans Lane
Huntleson Rd.
Black Horse Lane
US-Rt. 1
Rt. 130
151
197
152
195
152
195
148
195
148
205
142
199
144
199
157
199
156
199
191
211
172
208
172
208
174
177
165
167
167
182
Rt. 1 with Signals Removed

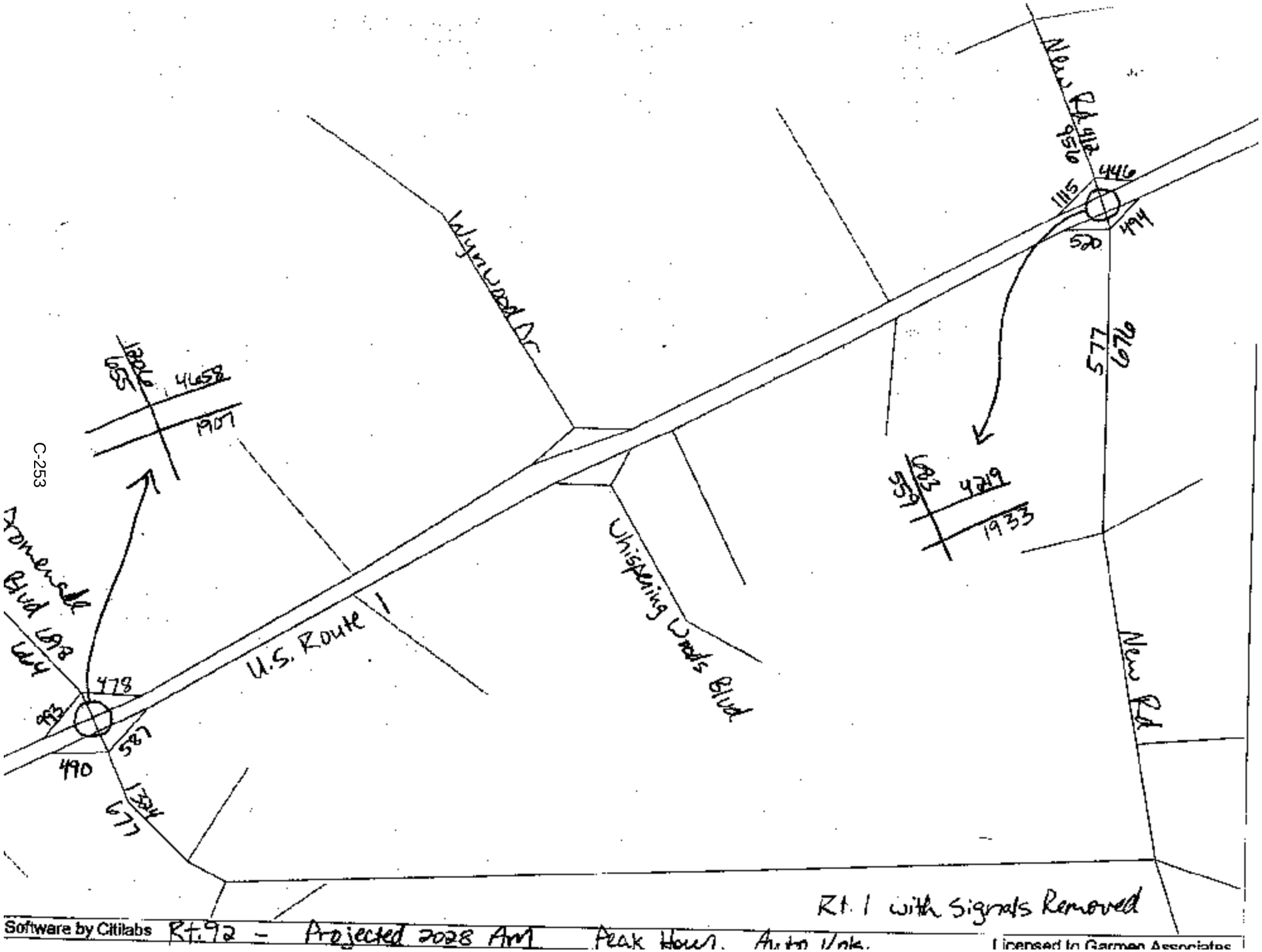


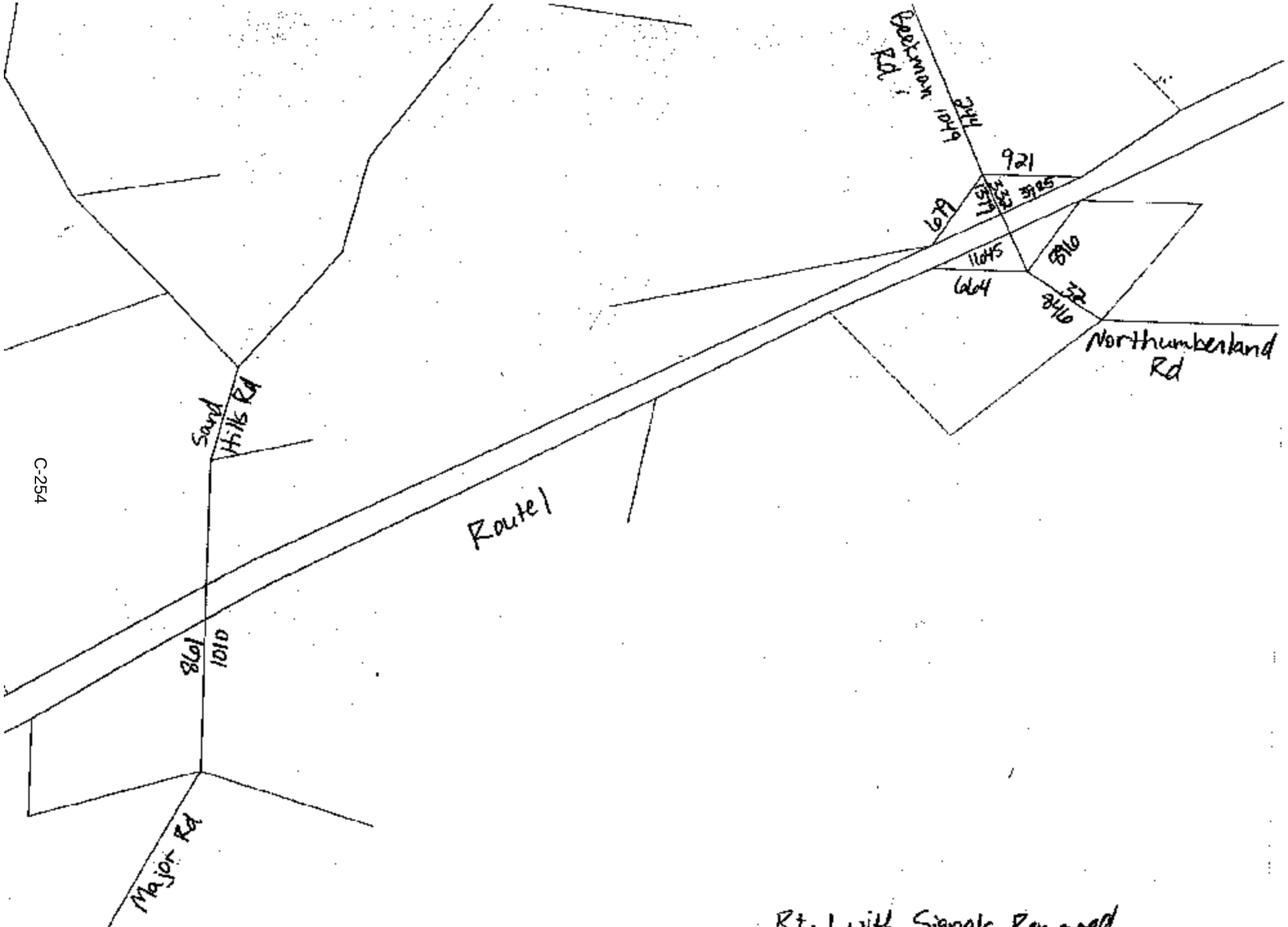
Software by Citilabs


Rt.27
Aaron Rd.
US-Rt.1
Beckman Rd.
Huntington Rd.
Sand Hills Rd.
Black Horse Ln.
Henderson Rd.
Beans Lane
Major Rd.
New Rd.
Wynwood Drive
Promenade Blvd.
Raymond Rd.
Rt.522
Ridge Rd.
Independence Way
Rt.130
48.9
Rt.1 with Signals Removed


Cozzens Ln
Commerce Blvd
Jersey Ave
Livingston Ave
North Oaks Blvd
Georges Rd.
Aaron Rd.
Adams Ln
Rt. 130
14.2
33.4
25.1
24.4
49.7
42.7
49.7
46.1
18.4
27.6
18.0
27.6
35.3
26.1
Rt. 1 with Signals Removed
Software by Citilabs
Licensed to Carmen Associates

2.7 2028 Six-Lane Route 1 w/ Signals Removed – Detail of Route 1 Cross Streets (College Rd. to Rt. 130)

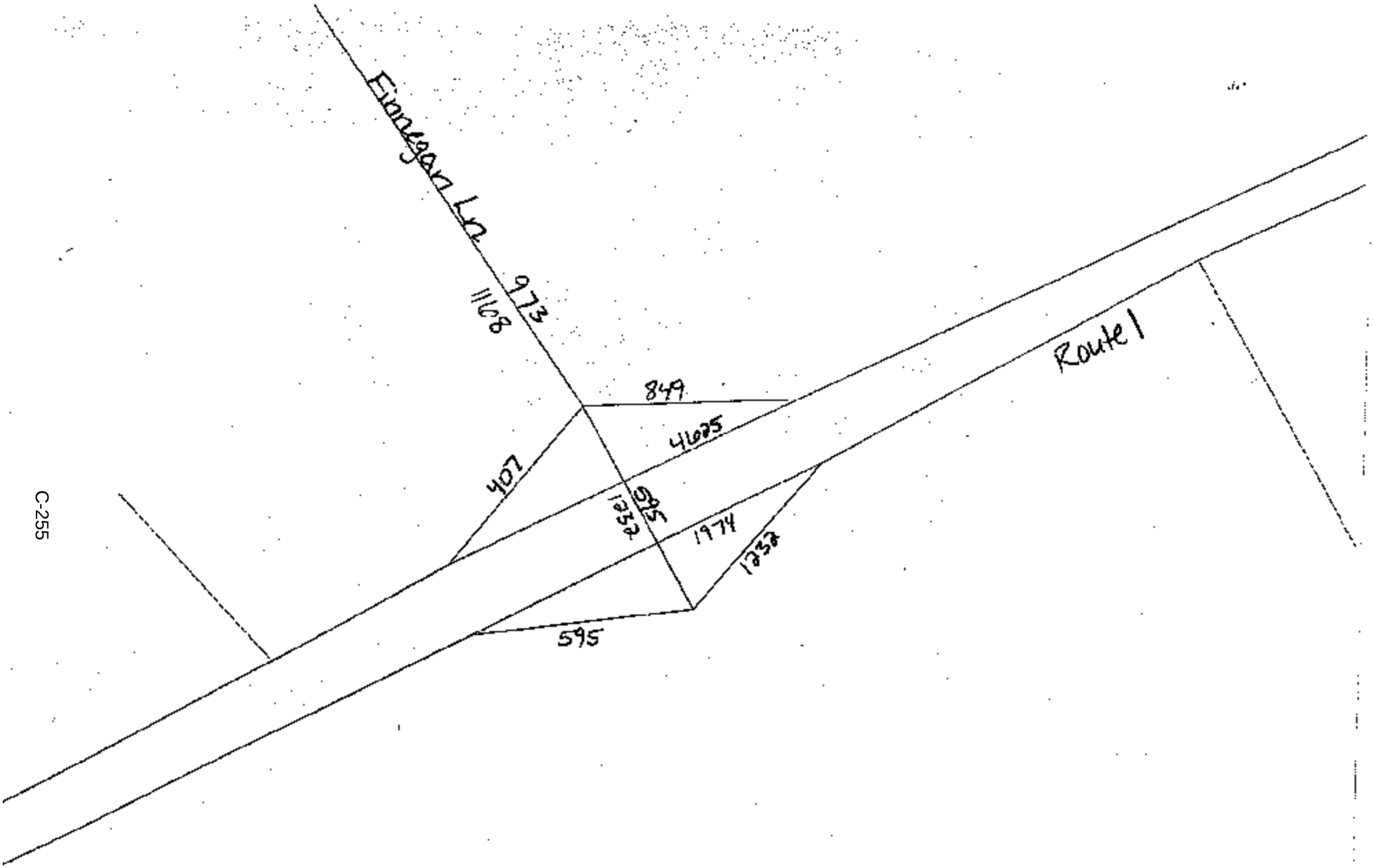

New Rd
912
956
446
1115
494
520
Idlewood Dr
577
676
1206
55
4658
1907
59
683
4219
1933
Whispering Woods Blvd
U.S. Route 1
Dunwoodie Blvd
478
493
587
490
1324
677
New Rd
Software by Citilabs
Rt. 1 with Signals Removed
Rt. 92 - Projected 2028 AM Peak Hour Auto Volume
Licensed to Garmen Associates



Rt. 1 with Signals Removed

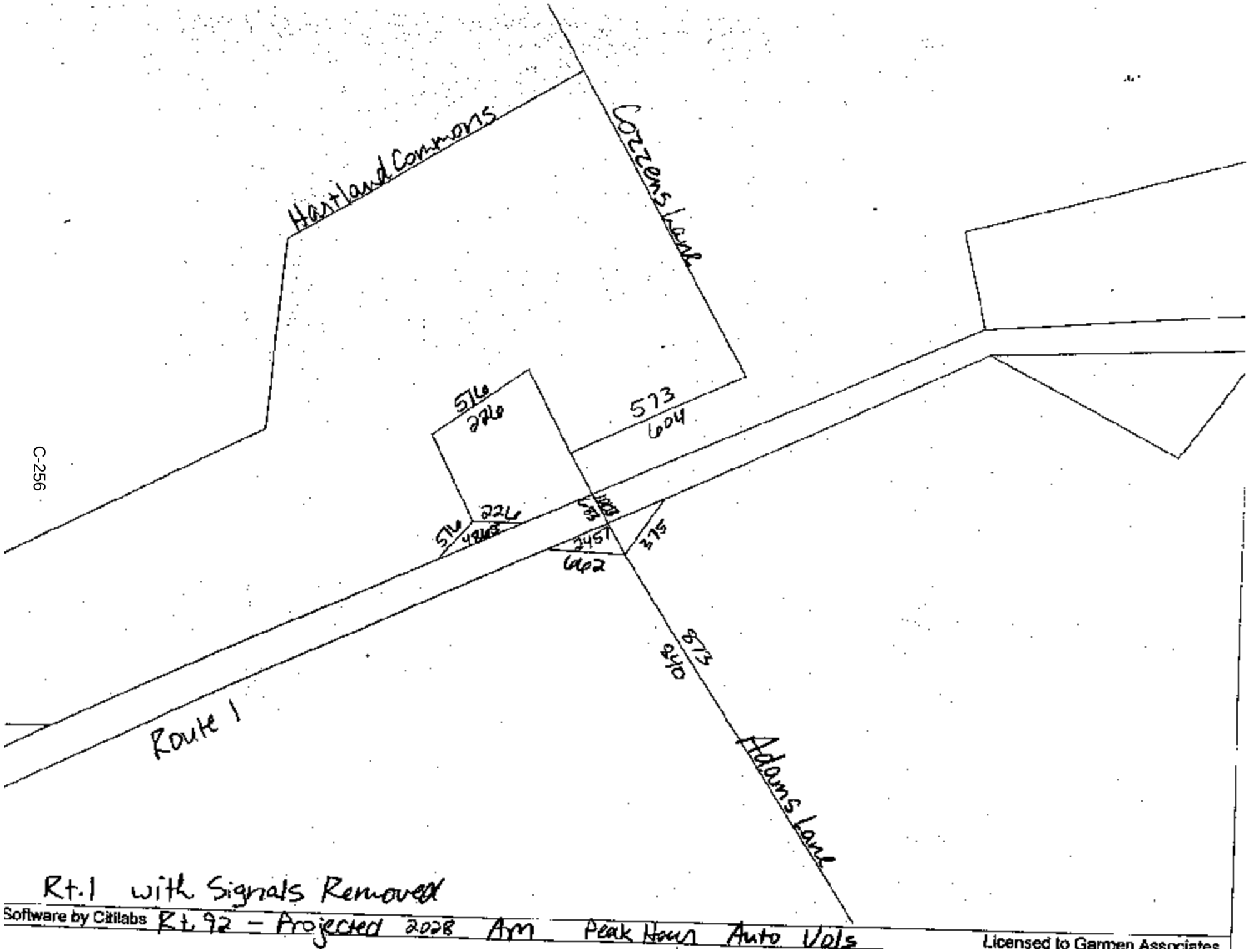
Software by Citilabs Rt. 92 - Projected 2028 AM Peak Hour Auto Vols

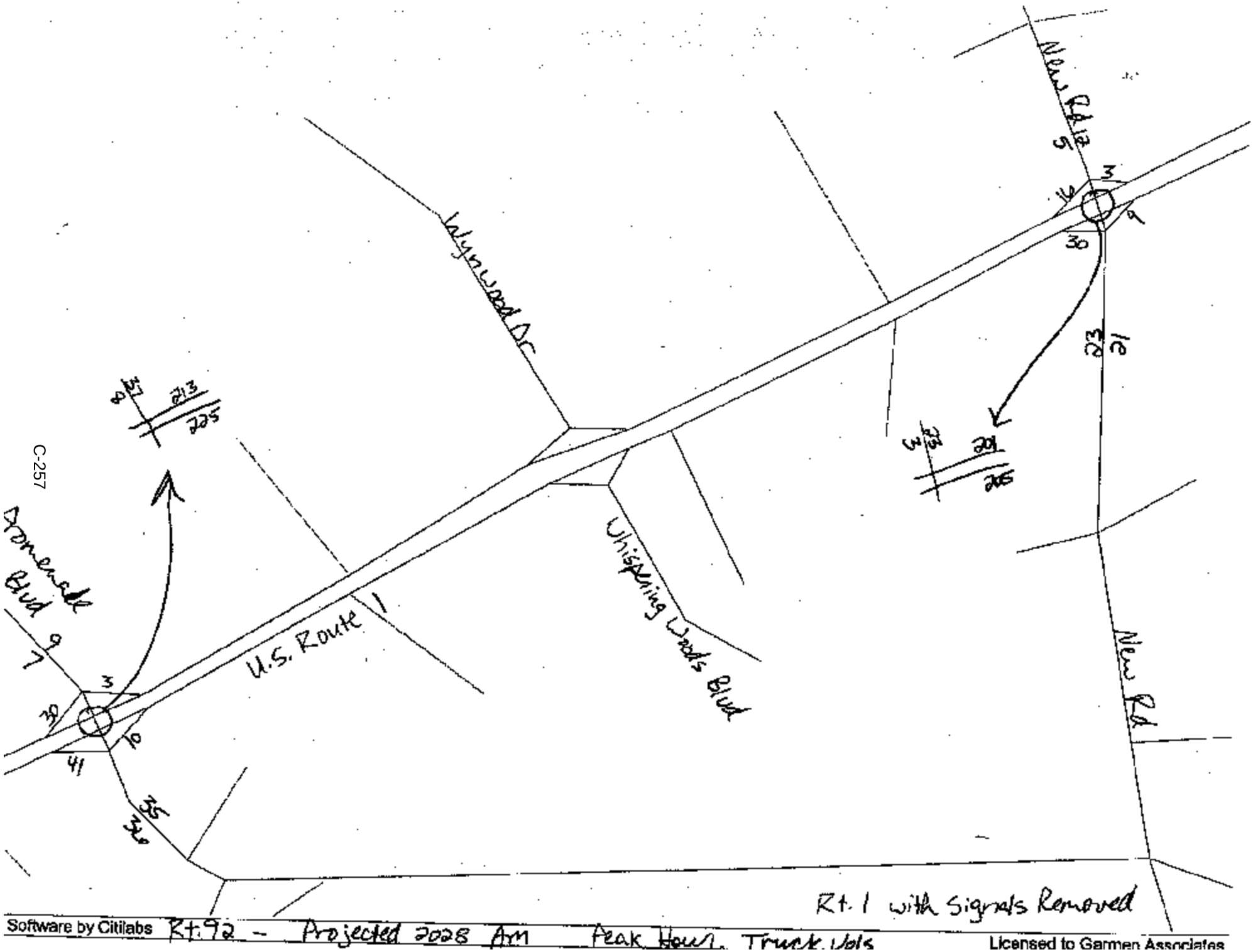
Licensed to Garmen Associates



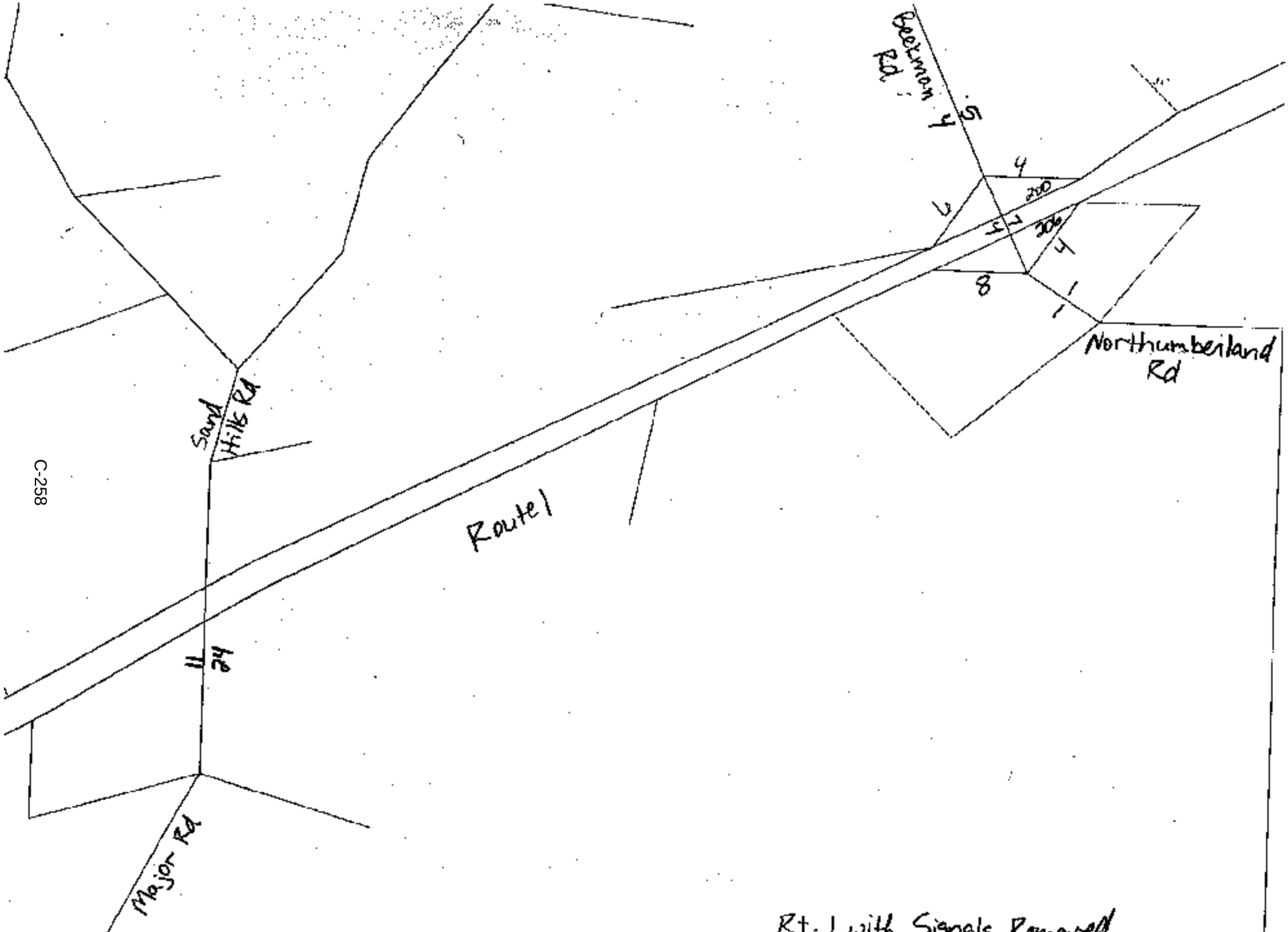
Rt 1 with Signals Removed

Software by Citilabs Rt. 92 – Projected 2028 AM Peak Hour Auto Vols Licensed to Garmen Associates


Hartland Commons
Cozzens Lane
516
226
573
604
516
226
486
2457
462
375
873
940
Route 1
Adams Lane
Rt.1 with Signals Removed
Rt. 92 - Projected 2028 AM Peak Hour Auto Vols
Software by Citilabs
Licensed to Garmen Associates



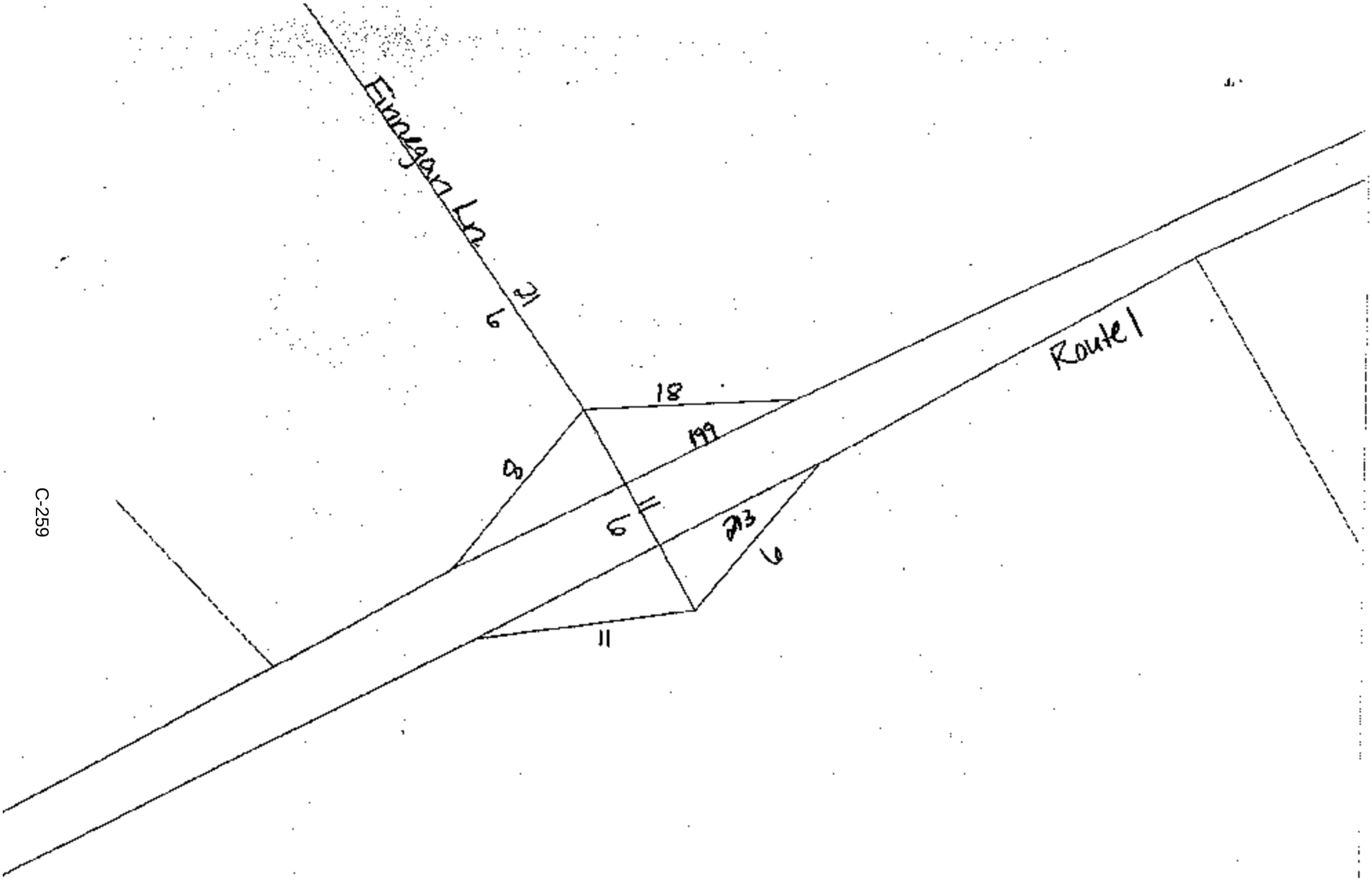
Software by Citilabs Rt. 92 - Projected 2028 AM Peak Hour Truck Vols Licensed to Garmen Associates



Rt. 1 with Signals Removed

Software by Citilabs Rt. 92 - Projected 2028 AM Peak Hour Truck Vols

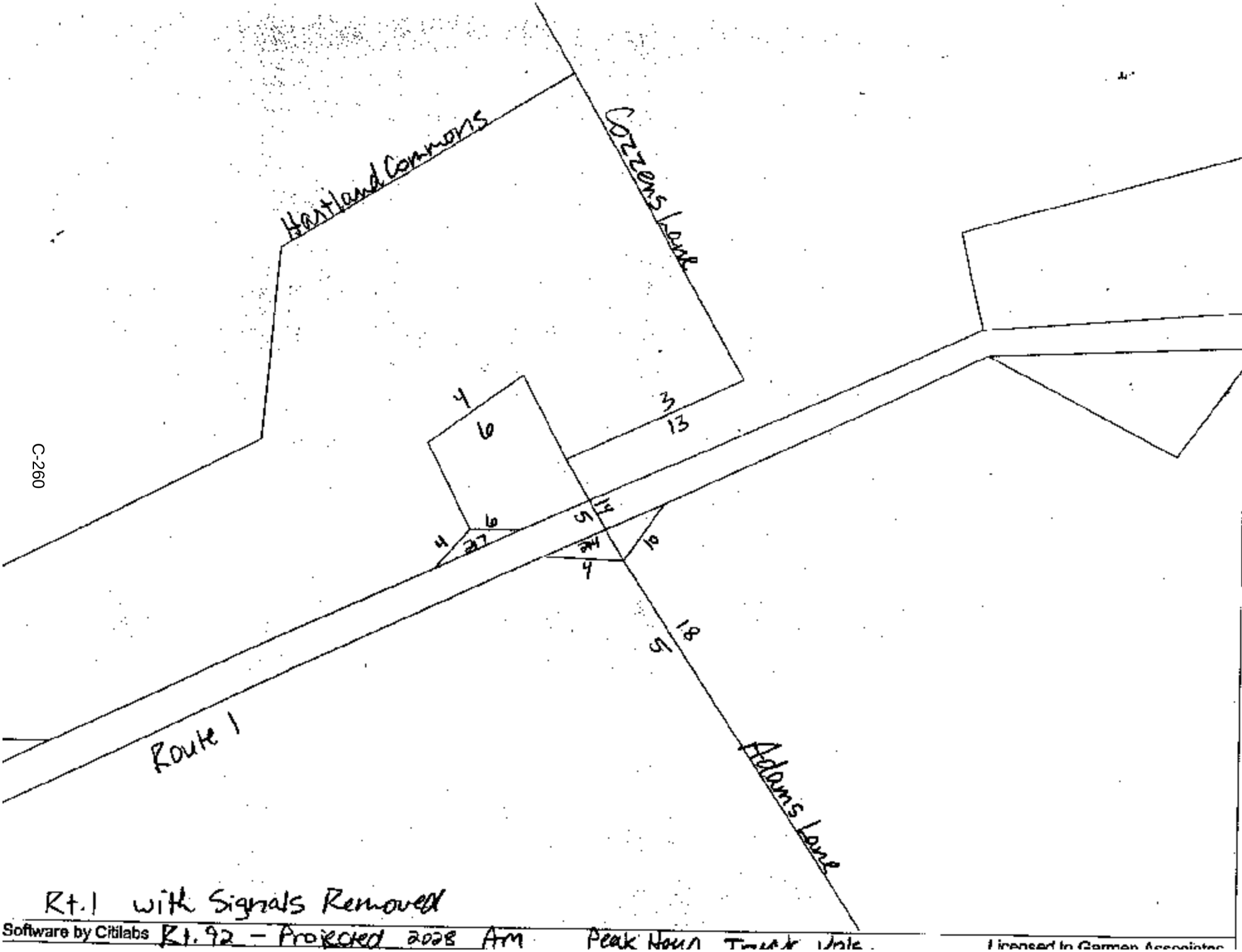
Licensed to Garman Associates

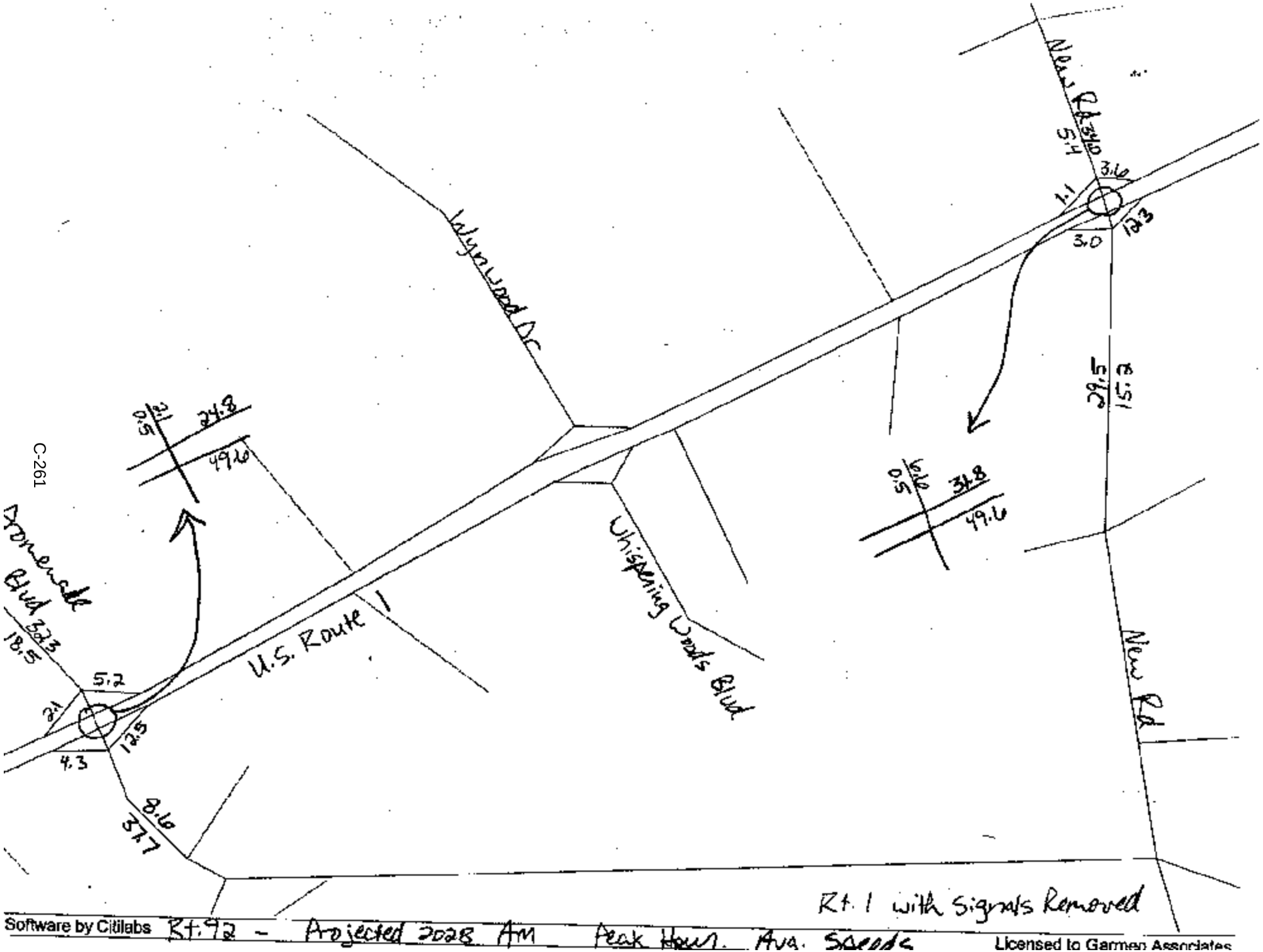


Rt. 1 with Signals Removed

Software by Citilabs Rt. 92 – Projected 2028 AM Peak Hour Trunk Vols

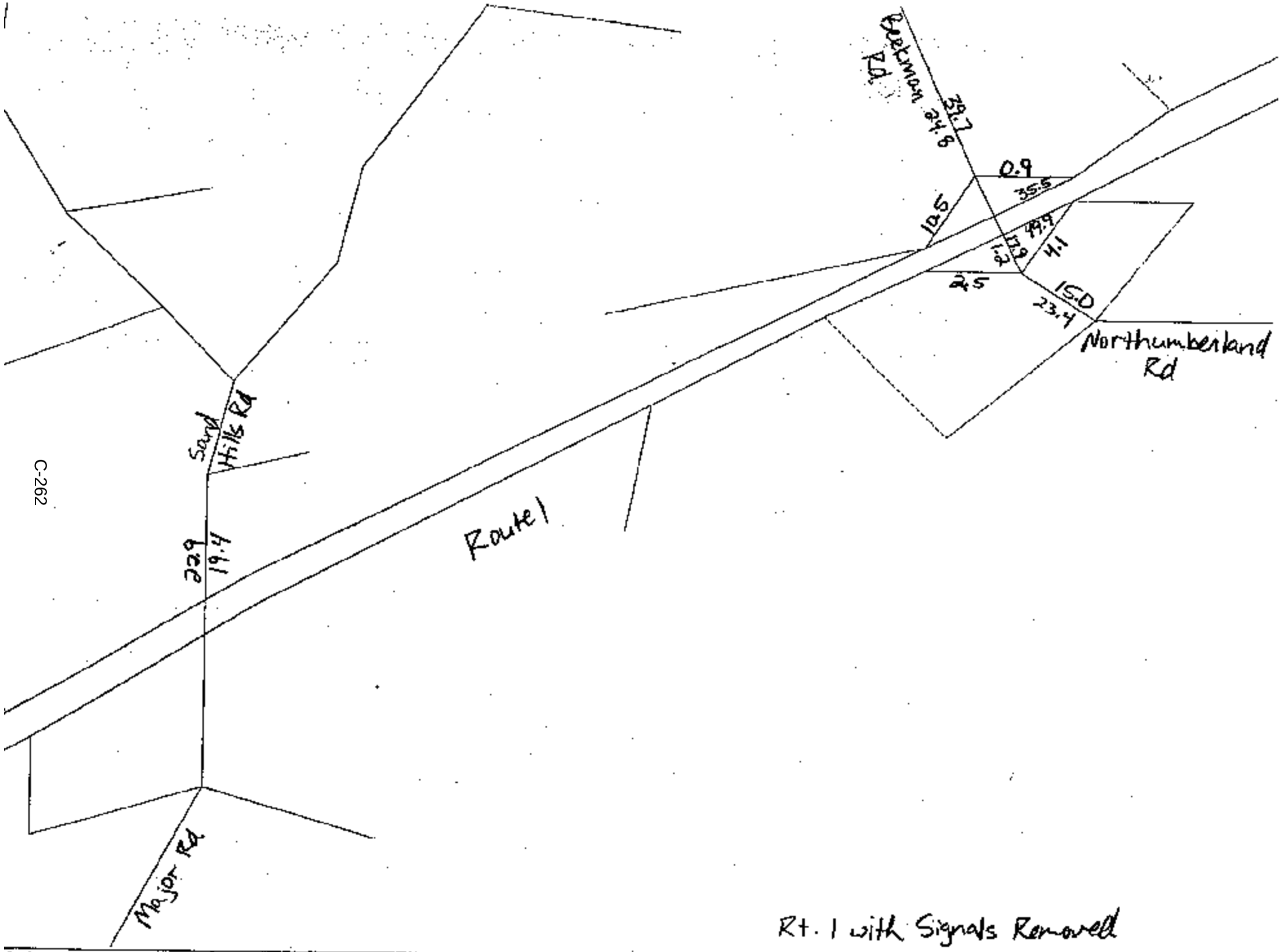
Licensed to Garmen Associates


Hartland Commons
Cozzens Lane
Route 1
Adams Lane
4
6
3
13
6
4
27
5
14
24
4
10
5
18
Rt. 1 with Signals Removed
Software by Citilabs
Rt. 92 - Projected 2028 AM Peak Hour Truck Vols.
Licensed to Garmen Associates



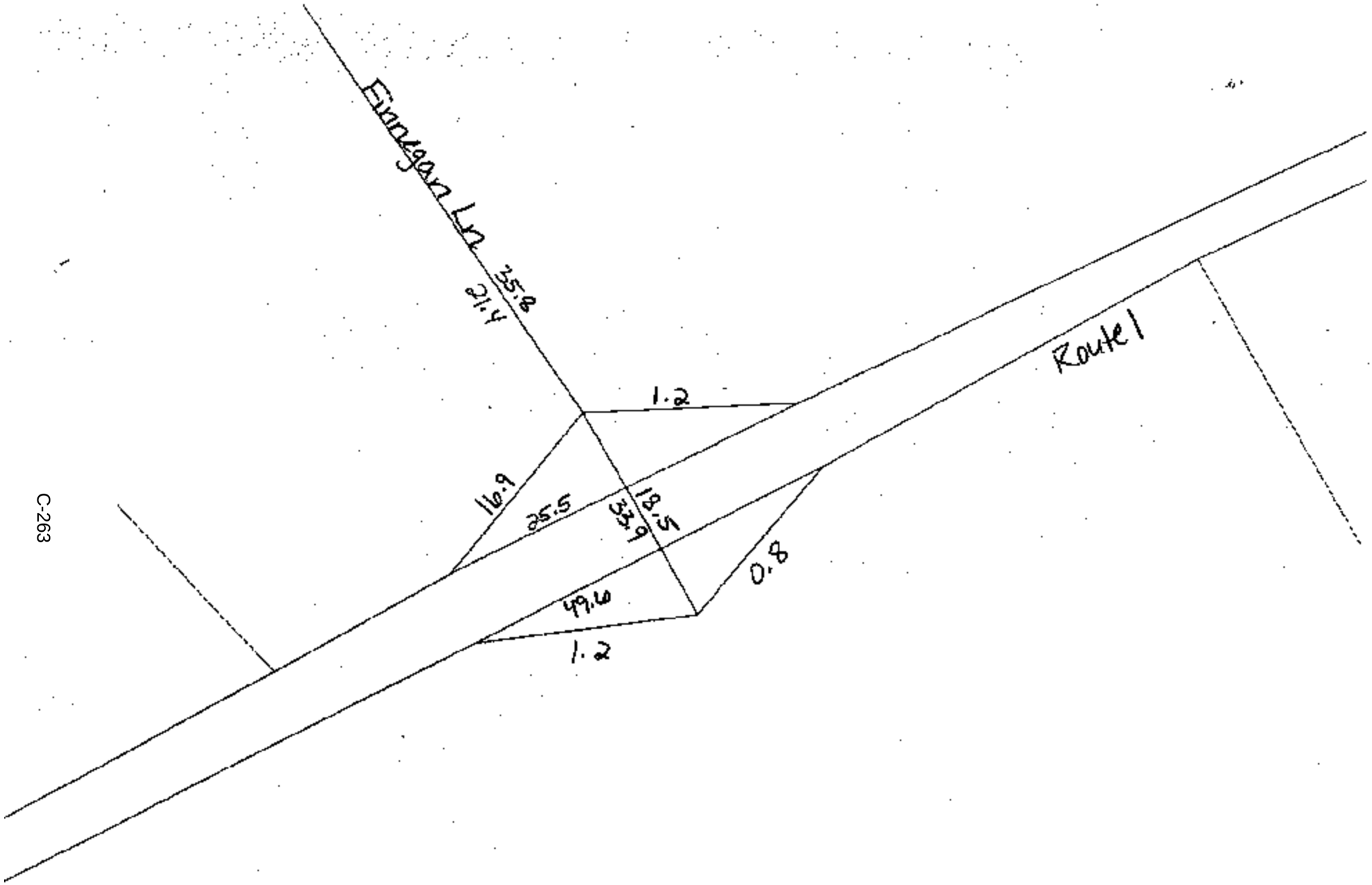
Software by Citilabs Rt. 92 - Projected 2028 AM Peak Hour Avg. Speeds

Licensed to Garmen Associates



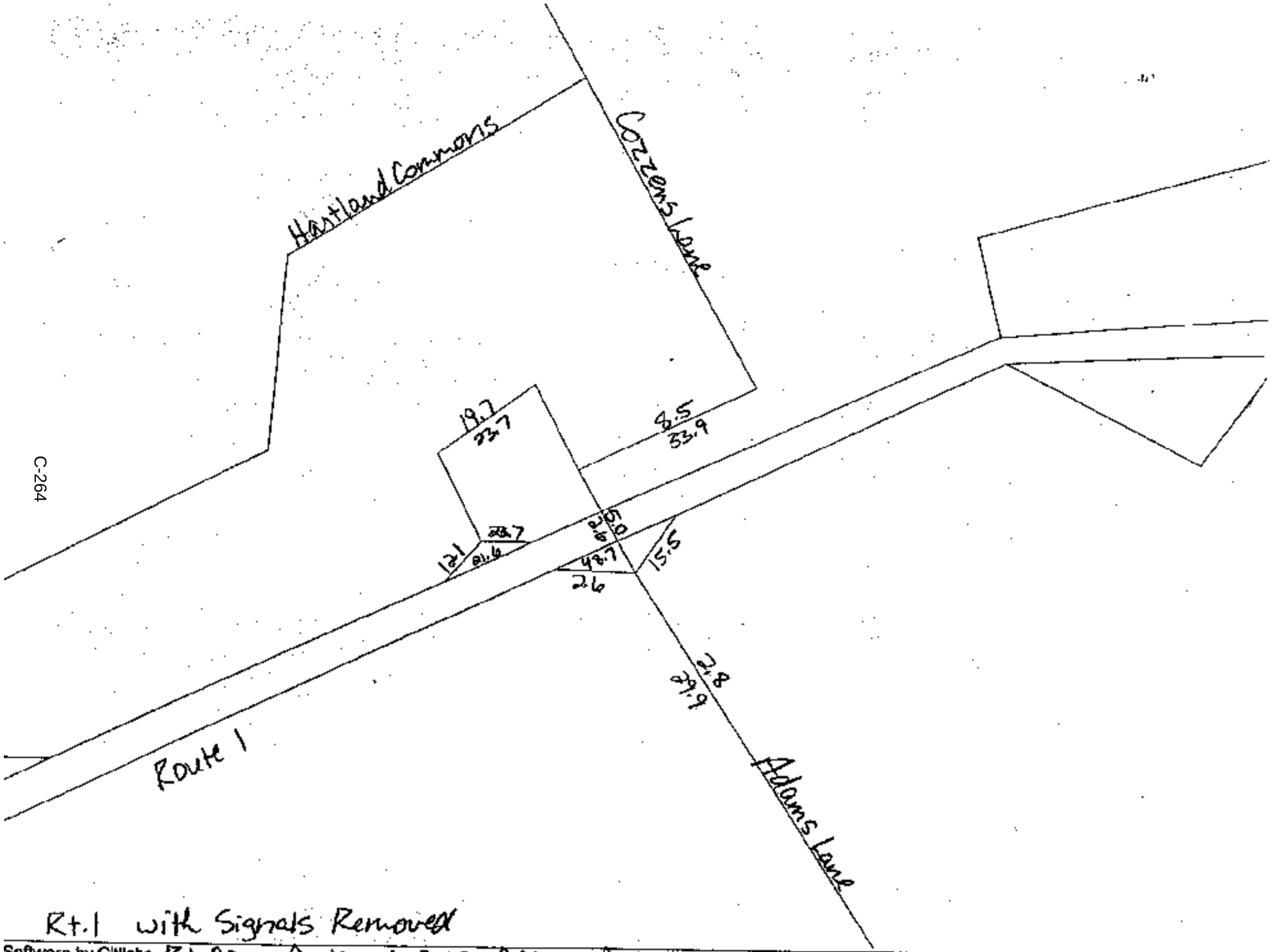
Rt. 1 with Signals Removed

Software by Citilabs Rt. 92 - Projected 2028 AM Peak Hour Avg. Speeds Licensed to Garmen Associates



Rt. 1 with Signals Removed

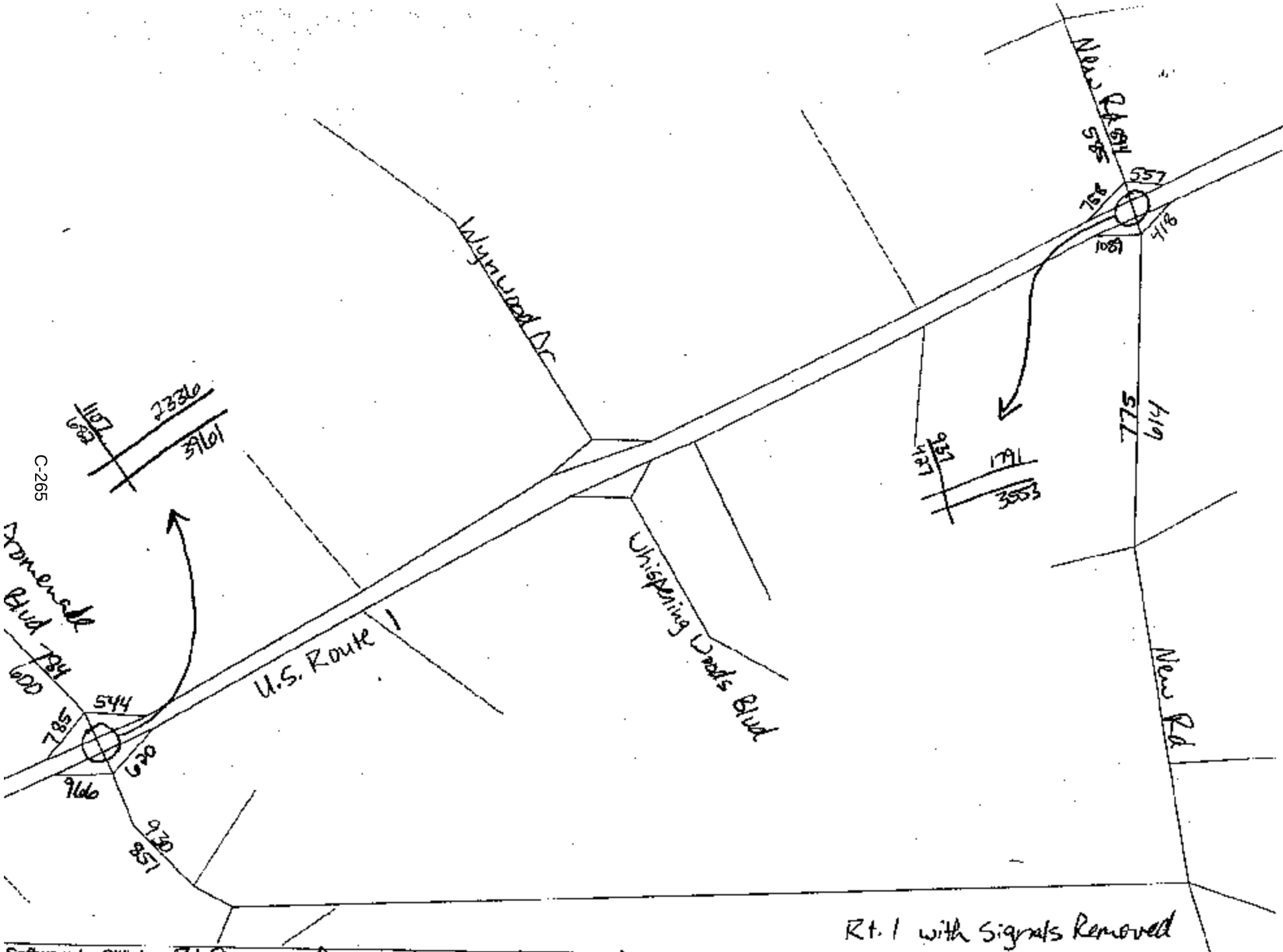
Software by Citilabs Rt. 92 – Projected 2028 AM Peak Hour Avg. Speeds. Licensed to Garmen Associates



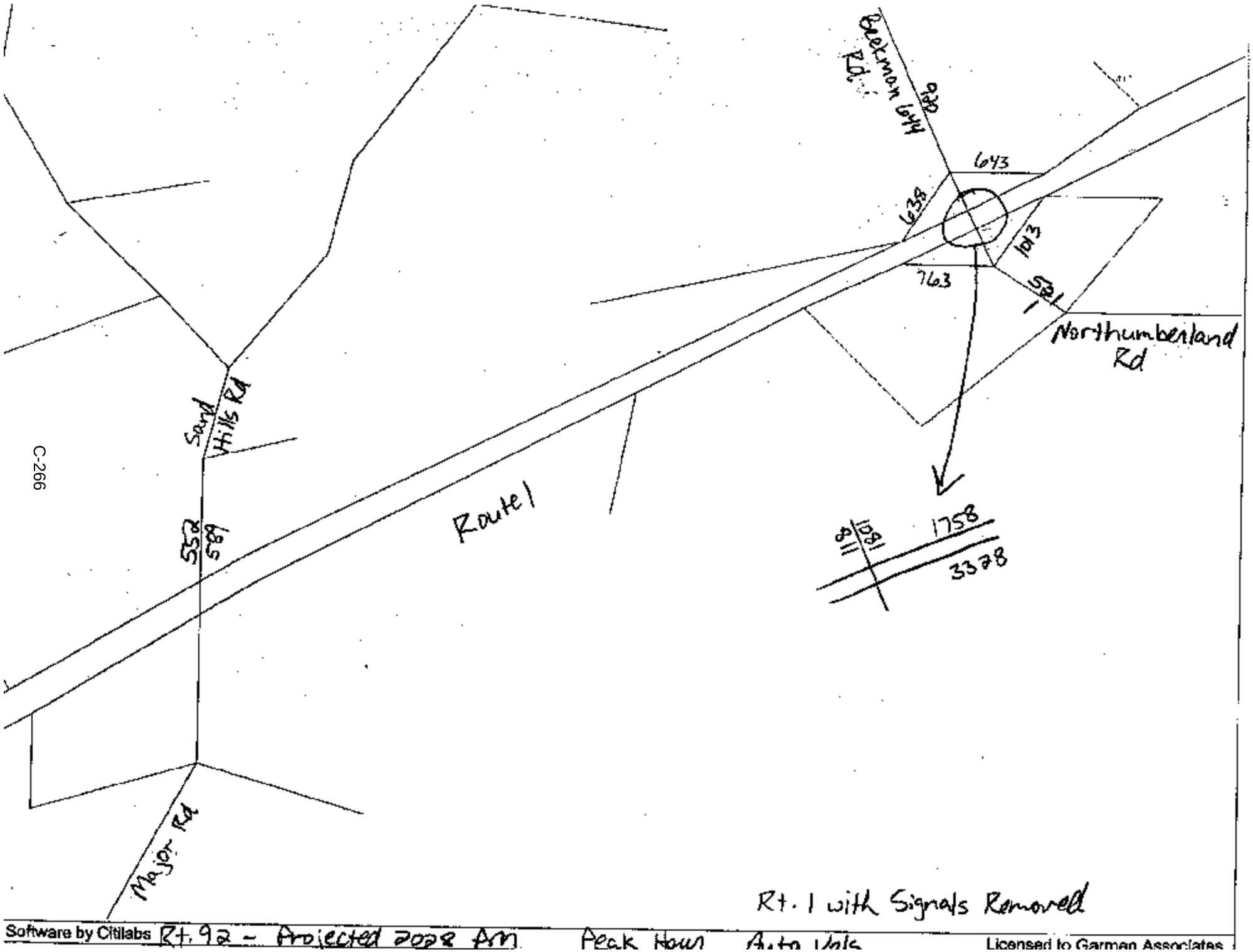
Rt.1 with Signals Removed

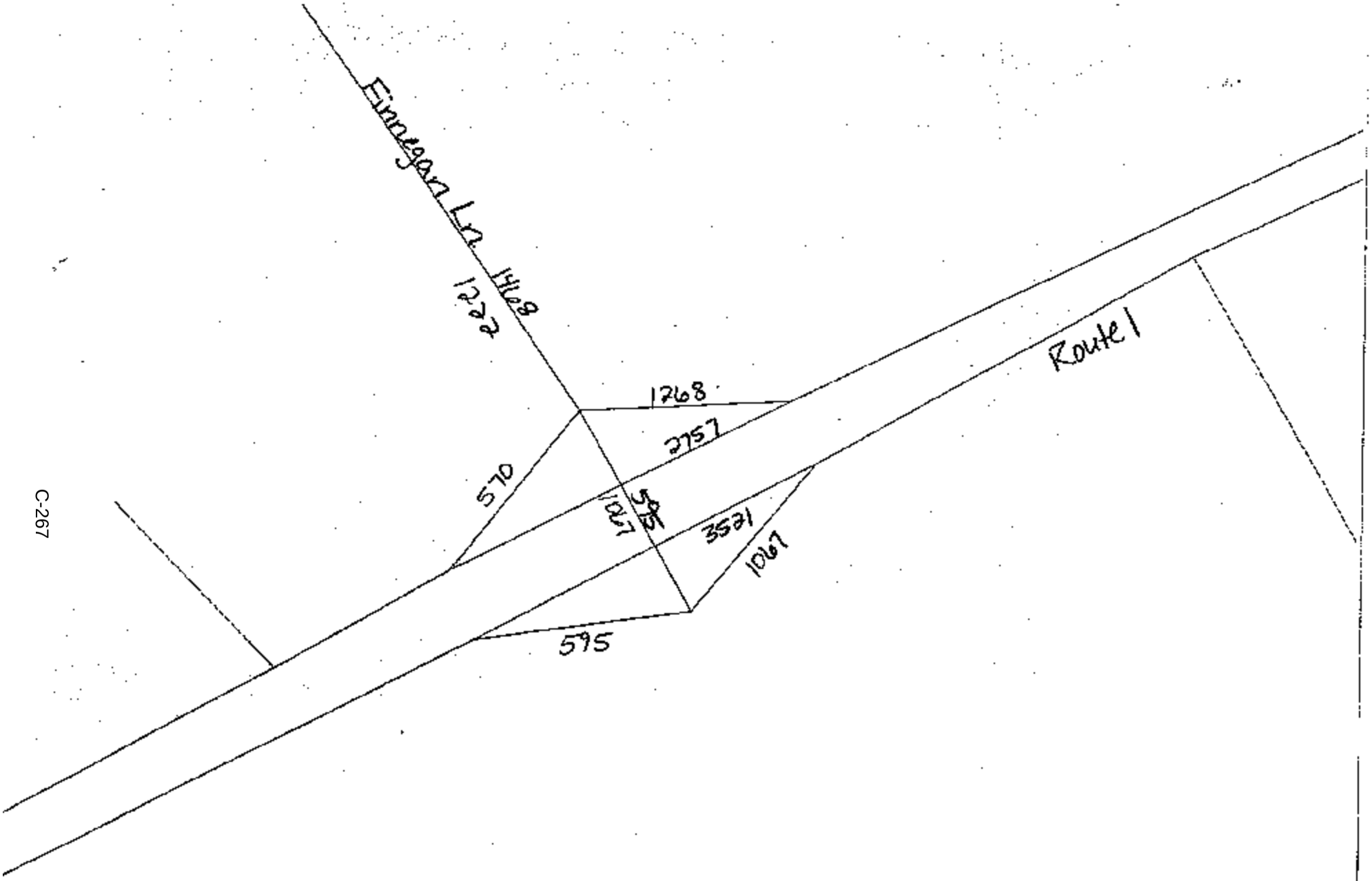
Software by Citilabs Rt. 92 – Projected 2028 AM Peak Hour Avg. Speeds

Licensed to Garmen Associates



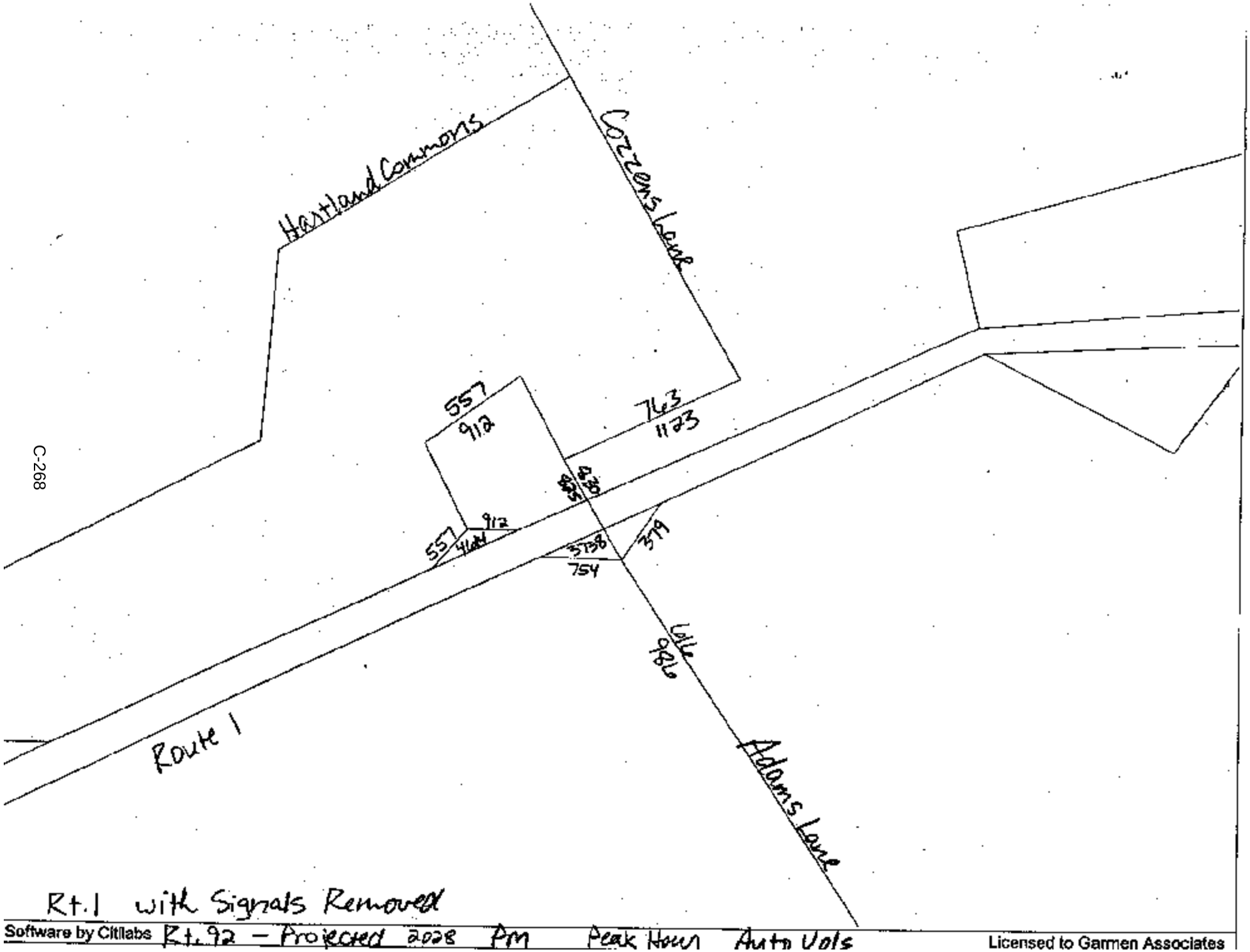
Software by Citilabs Rt. 92 - Projected 2028 AM Peak Hour. Auto Vols Licensed to Garmen Associates

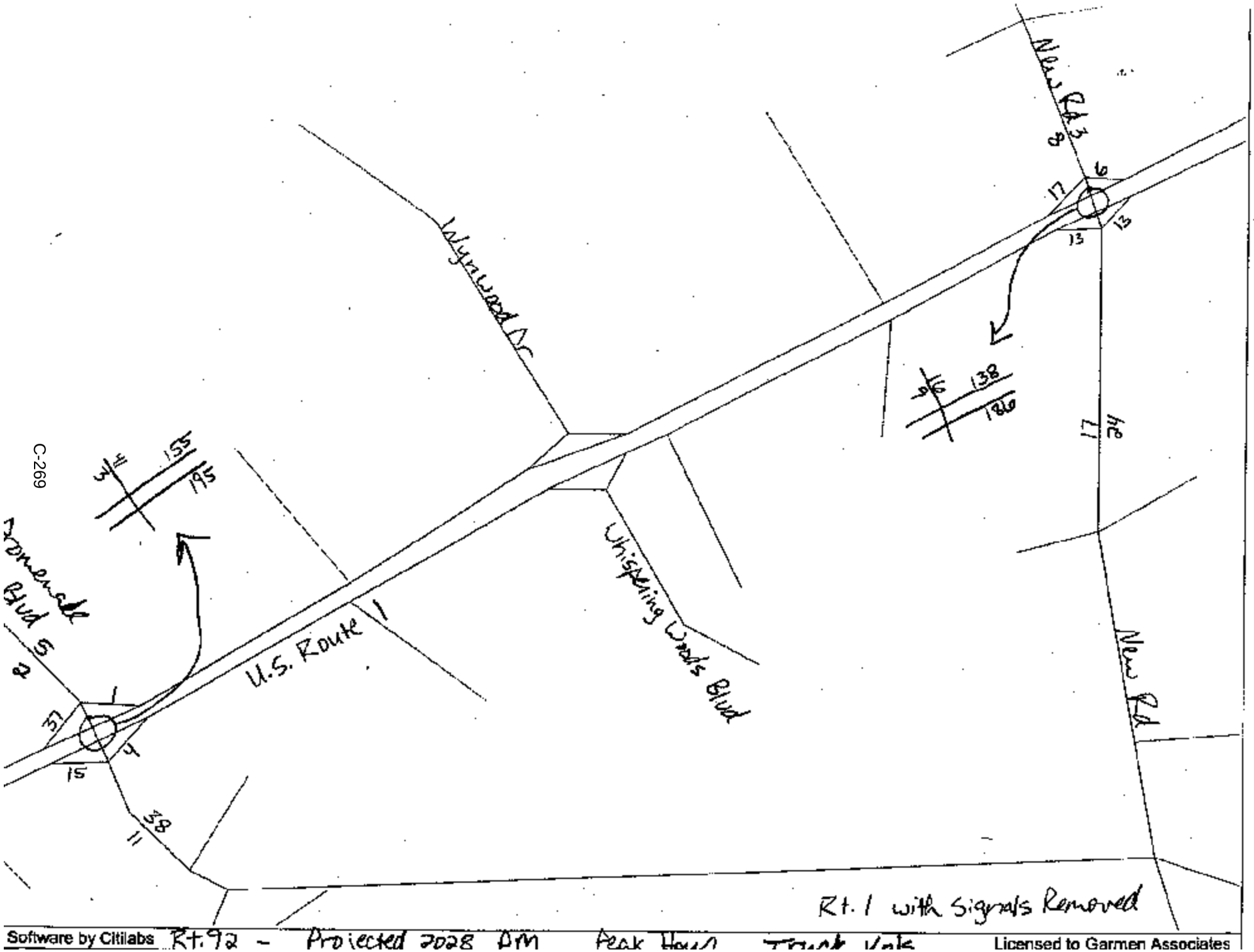

Beckman Hill Rd
90
643
638
763
101
58
1
Northumberland Rd
Sand Hills Rd
552
589
Route 1
811
1081
1758
3378
Major Rd
Rt. 1 with Signals Removed
Software by Citilabs
Rt. 92 - Projected 2028 AM Peak Hour Auto Vols
Licensed to Garmen Associates



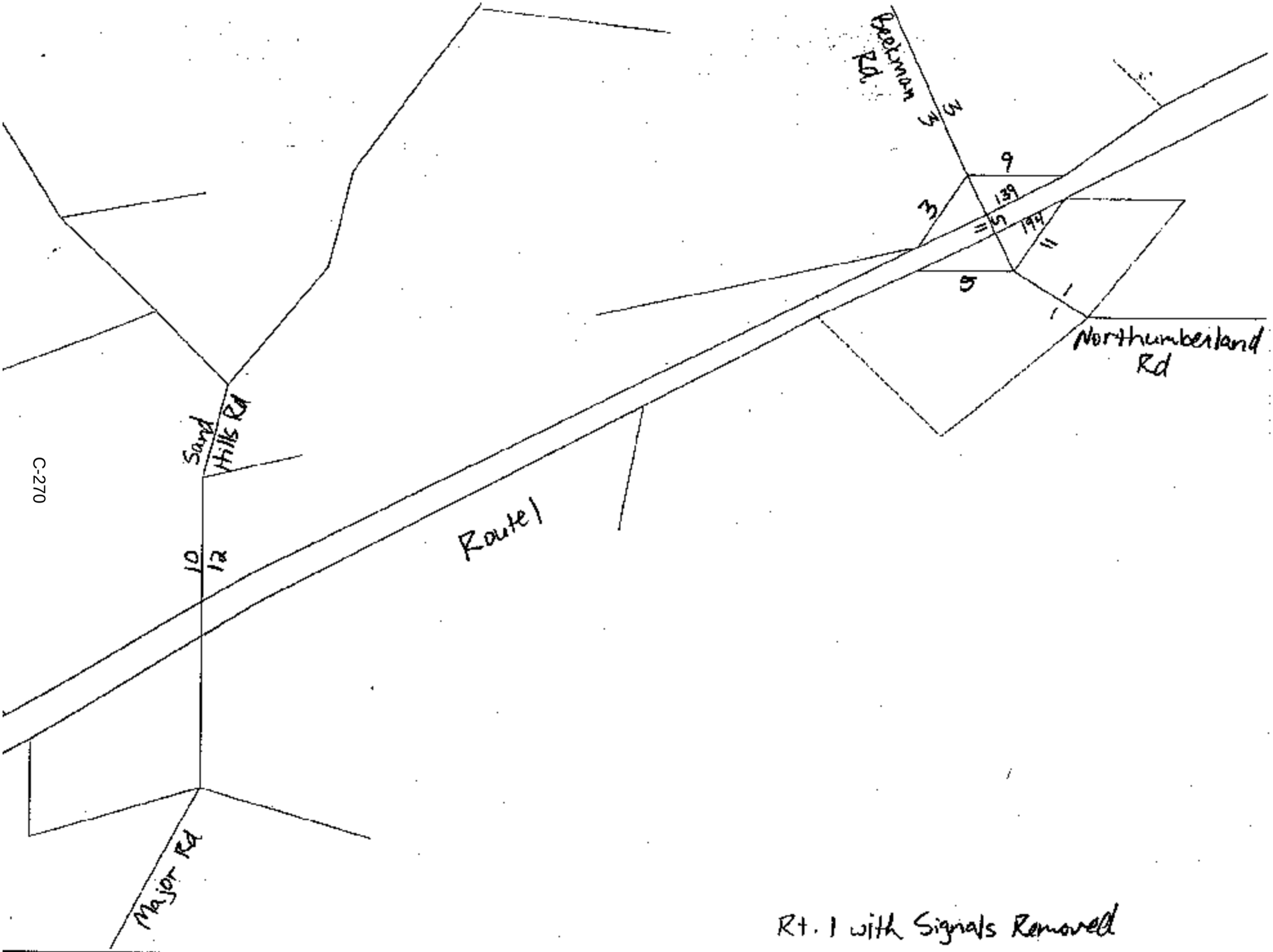
Rt. 1 with Signals Removed

Software by Citilabs Rt. 92 – Projected 2028 AM Peak Hour Auto Vols Licensed to Garmen Associates


Hartland Commons
Cozzens Lane
557
912
763
1123
420
557
912
464
3738
754
379
Lille
986
Route 1
Adams Lane
Rt. 1 with Signals Removed
Software by Citilabs
Rt. 92 – Projected 2028 PM Peak Hour Auto Vols
Licensed to Garmen Associates

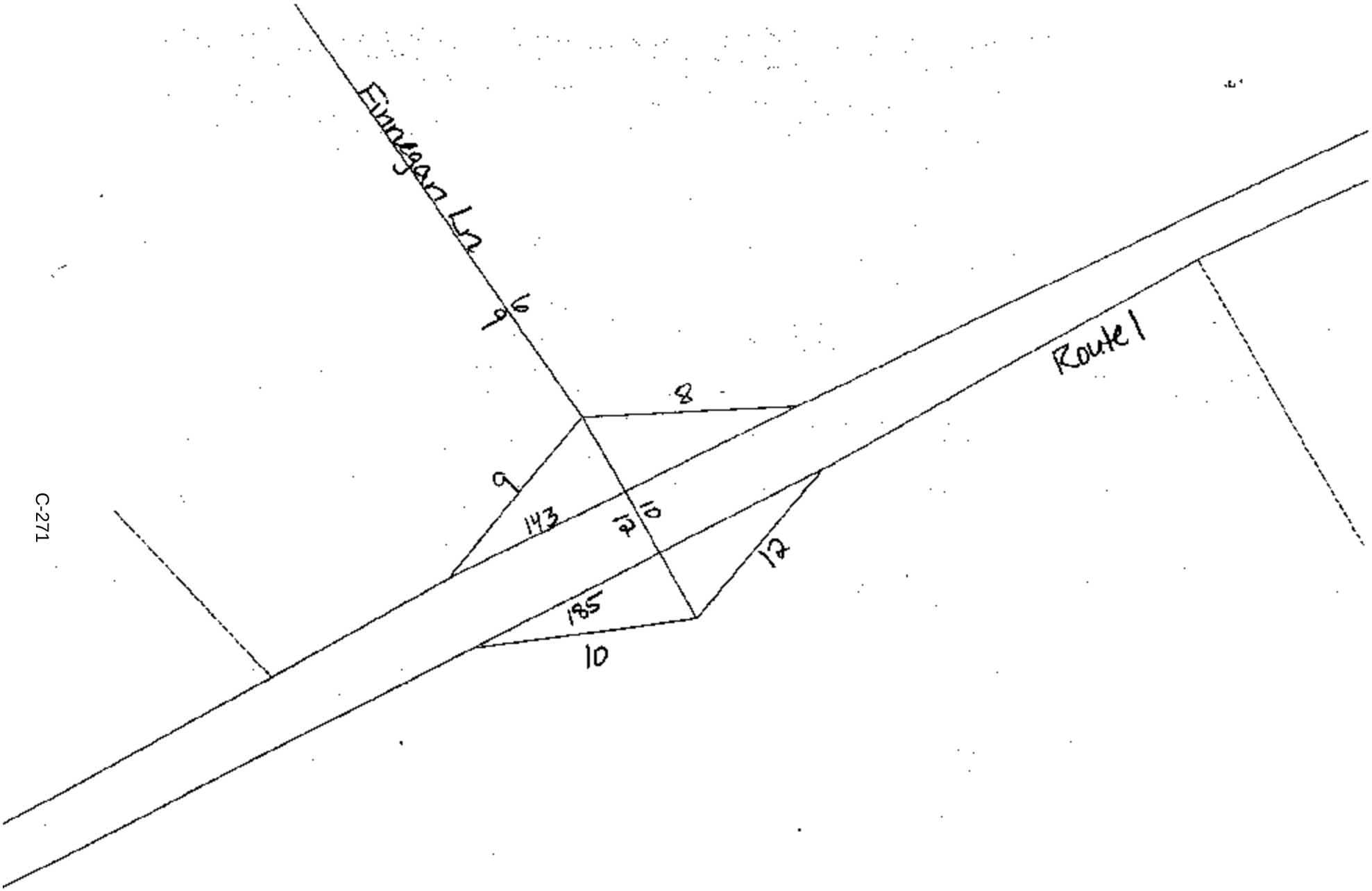


Software by Citilabs Rt. 92 - Projected 2028 PM Peak Hour Truck Volume Licensed to Garmen Associates

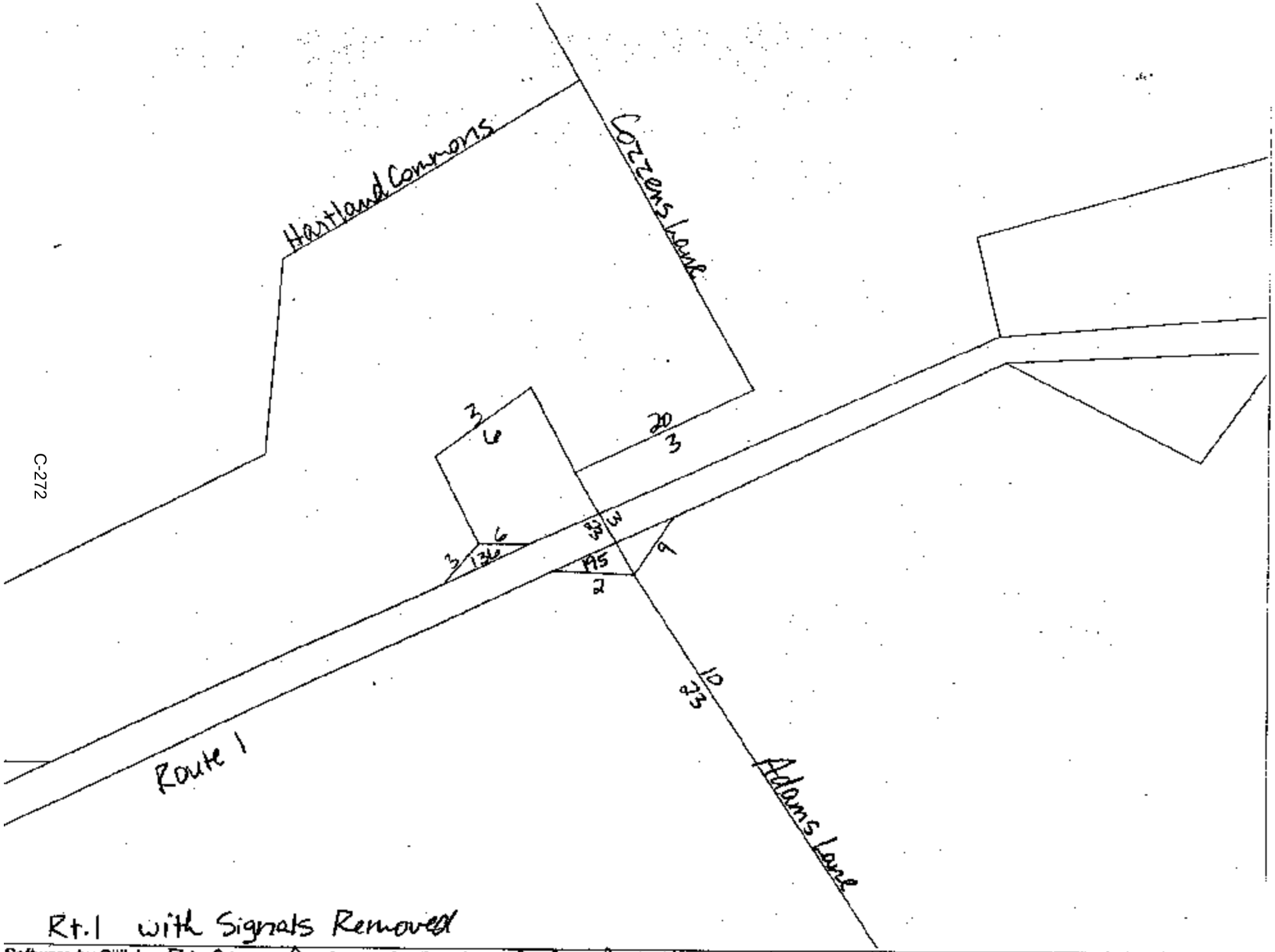


Rt. 1 with Signals Removed

Software by Citilabs Rt. 92 - Projected 2028 PM Peak Hour Truck Vols Licensed to Garmen Associates

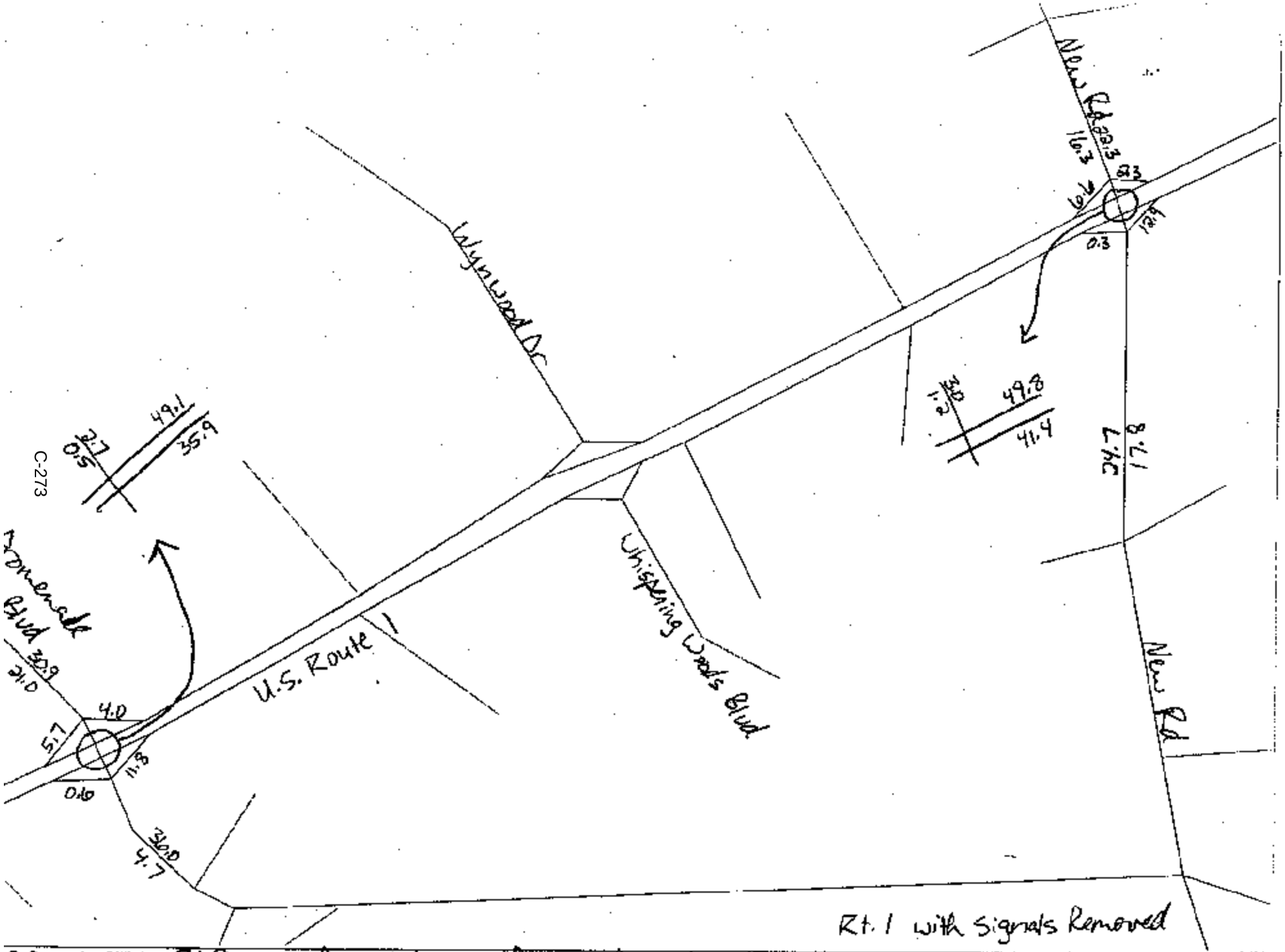


Rt. 1 with Signals Removed

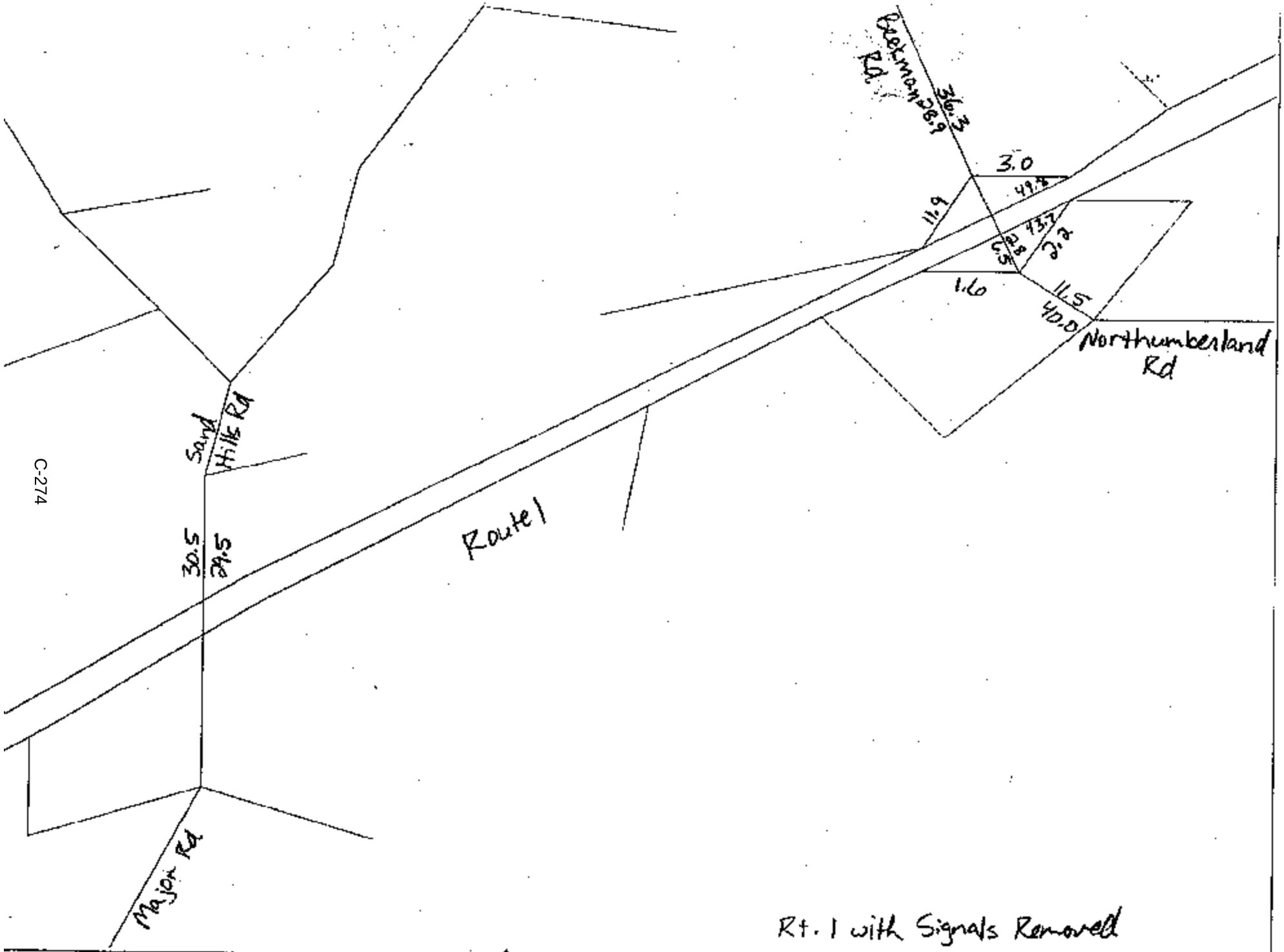


Rt.1 with Signals Removed

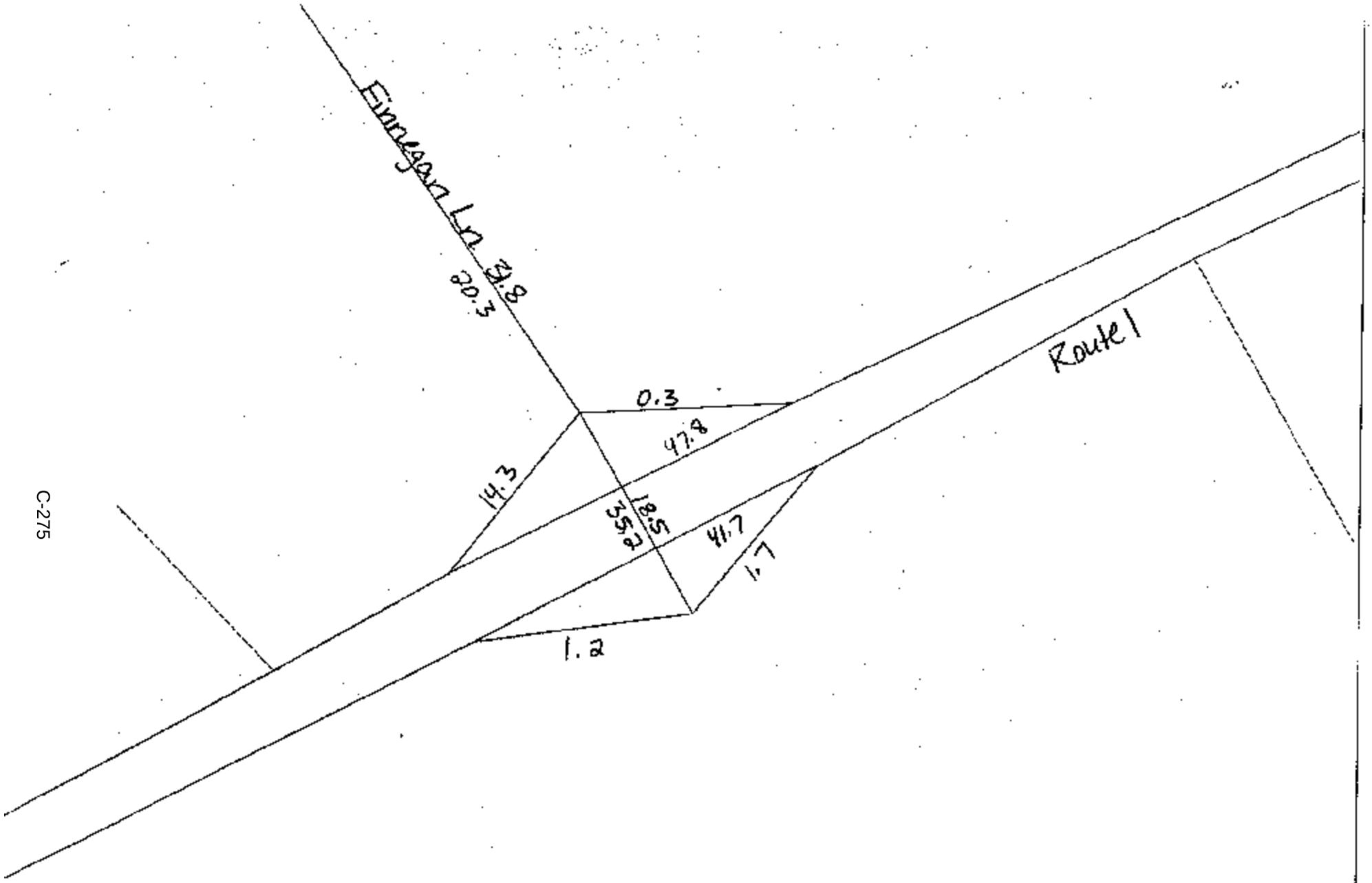
Software by Citilabs Rt. 92 – Projected 2028 PM Peak Hour Truck Hole Licensed to Garmen Associates



Software by Citilabs Rt. 92 – Projected 2028 PM Peak Hour Avg. Speeds Licensed to Garmen Associates

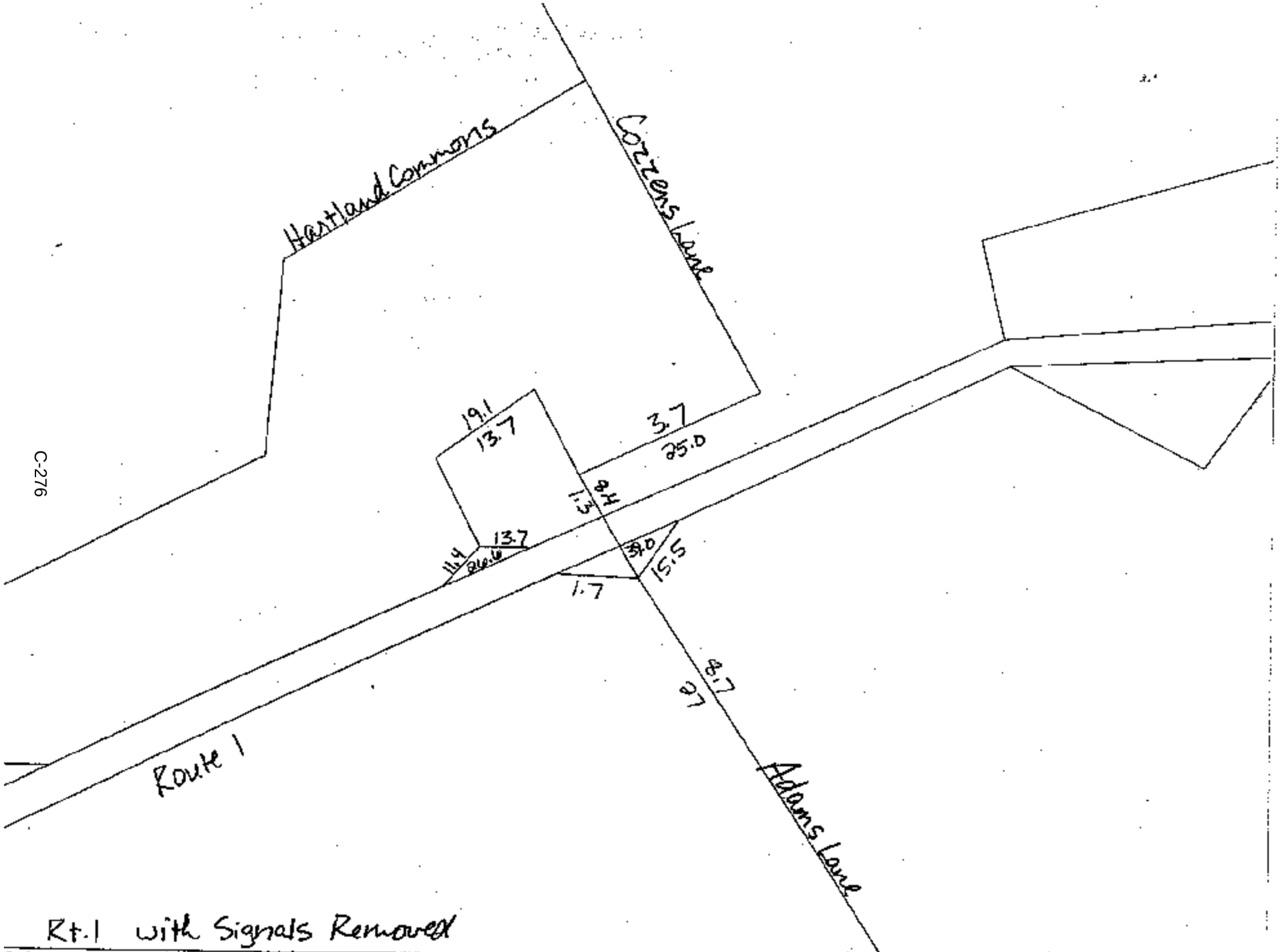


Software by Citilabs Rt. 92 - Projected 2028 AM Peak Hour Avg. Speeds Licensed to Garmen Associates



Rt. 1 with Signals Removed

Software by Citilabs Rt. 92 – Projected 2028 PM Peak Hour Avg. Speeds Licensed to Garmen Associates



Rt. 1 with Signals Removed

2.8 2028 Two-Lane Route 92

Software by Citilabs 2-LANE ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Auto Volumes Licensed to Garmen Associates

Software by Citilabs 2-LANE ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Truck Volumes Licensed to Garmen Associates

Software by Citilabs 2-LANE ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Avg. Speeds (mph) Licensed to Garmen Associates

Software by Citilabs 2-LANE ROUTE 92 - PROJECTED 2028 PM PEAK HOUR Auto Volumes Licensed to Garmen Associates

Software by Citilabs 2-LANE ROUTE 92 - PROJECTED 2028 PM PEAK HOUR Truck Volumes Licensed to Garmen Associates

Software by Citilabs 2-LANE ROUTE 92 - PROJECTED 2028 PM PEAK HOUR Avg. Speeds (mph) Licensed to Garmen Associates

2.9 2028 Four-Lane Route 92 Without Perrine Road Interchange

(w/o Perrine Rd. Interchange)

Software by Citilabs 4-LANE ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Auto Volumes Licensed to Garmen Associates

(w/o Perrine Rd. Interchange)

Software by Citilabs 4-LANE ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Truck Volumes Licensed to Garmen Associates

(w/o Perrine Rd. Interchange)

Software by Citilabs 4-LANE ROUTE 92 - PROJECTED 2028 AM PEAK HOUR Avg. Speeds (mph) Licensed to Garmen Associates

(w/o Perrine Rd. Interchange)

oftware by Citilabs 4-LANE ROUTE 92 - PROJECTED 2028 PM PEAK HOUR Auto Volumes Licensed to Garmen Associates

(w/o Perrine Rd. Interchange)

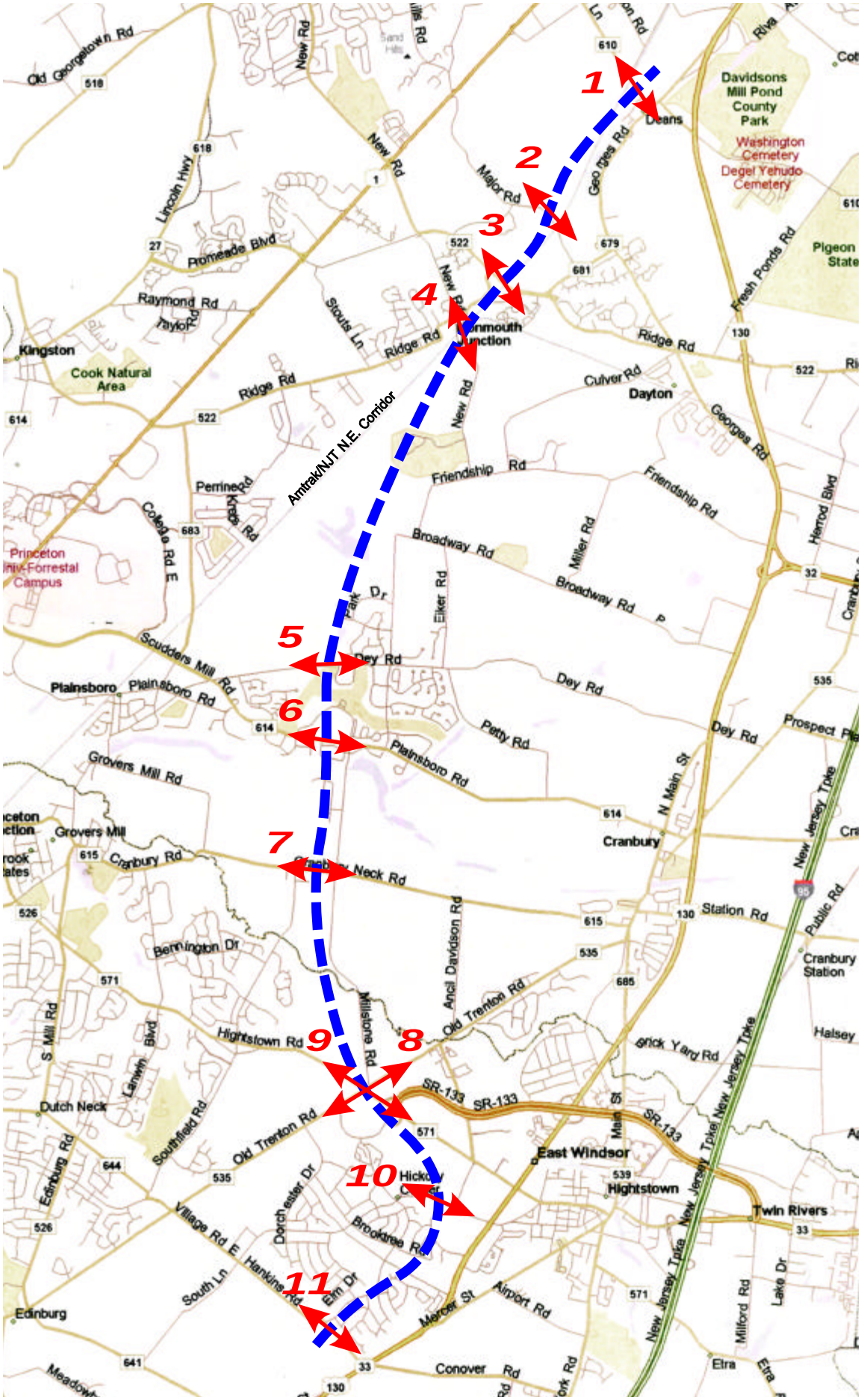
Software by Citilabs 4-LANE ROUTE 92 - PROJECTED 2028 PM PEAK HOUR Truck Volumes Licensed to Garmen Associates

(w/o Perrine Rd. Interchange)

oftware by Citilabs 4-LANE ROUTE 92 - PROJECTED 2028 PM PEAK HOUR Avg. Speeds (mph) Licensed to Garmen Associates

3.0 Screenline Volumes

3.1 2028 Projected Screenline Volumes - AM Autos


1
2
3
4
5
6
7
8
9
10
11
Amtrak/NJT N.E. Corridor
Davidsons Mill Pond County Park
Washington Cemetery
Degel Yehudo Cemetery
Deans
Major Rd
Georges Rd
Promenade Blvd
Raymond Rd
Kingston
Cook Natural Area
Ridge Rd
Monmouth Junction
Culver Rd
Dayton
Friendship Rd
Broadway Rd
Miller Rd
Elker Rd
Dey Rd
Plainsboro
Plainsboro Rd
Petty Rd
Grovers Mill Rd
Grovers Mill
Cranbury Rd
Cranbury Neck Rd
Cranbury
Station Rd
Cranbury Station
Bennington Dr
Hightstown Rd
Millstone Rd
Ancil Davidson Rd
Old Trenton Rd
Brick Yard Rd
Halsey
SR-133
East Windsor
Hightstown
Twin Rivers
Dutch Neck
Southfield Rd
Village Rd E
Hankins Rd
Brookree Rd
Dorchester Dr
Elm Dr
South Ln
Edinburg
Mercer St
Airport Rd
Conover Rd
Etra
Milford Rd
Lake Dr
New Jersey Tpke
Herrod Blvd
Fresh Ponds Rd
Pigeon State
Princeton Univ-Forrestal Campus
Scudders Mill Rd
Prospect Pl
N Main St
Public Rd
Lincoln Hwy
Old Georgetown Rd
New Rd
Riva
Cot
Ridge Rd
Perrineo Rd
Colonial Rd E
Kreis Rd
Park Dr
Meadow
Lanwin Blvd
S Mill Rd
Edinburg Rd
Cranbury
Halsey
Twin Rivers
Etra
Milford Rd
Lake Dr
Conover Rd
Mercer St
Airport Rd
Hankins Rd
Village Rd E
Brookree Rd
Dorchester Dr
Elm Dr
South Ln
Southfield Rd
Dutch Neck
Edinburg
Hightstown Rd
Bennington Dr
Cranbury Neck Rd
Cranbury Rd
Grovers Mill
Grovers Mill Rd
Plainsboro Rd
Plainsboro
Scudders Mill Rd
Dey Rd
Petty Rd
Broadway Rd
Miller Rd
Elker Rd
Park Dr
Friendship Rd
Culver Rd
Dayton
Ridge Rd
Monmouth Junction
Shouts Ln
Raymond Rd
Taylor Rd
Promenade Blvd
Lincoln Hwy
Old Georgetown Rd
New Rd
Major Rd
Georges Rd
Deans
Riva
Cot
Fresh Ponds Rd
Pigeon State
Herrod Blvd
Cranbury
Cranbury Station

2028 PROJECTED SCREENLINE VOLUMES -- AUTOS (1 OF 2)

EASTBOUND AM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regiona**	**Total**	**Local**	**Regiona**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	614	235	850	616	341	957	631	314	945	656	326	982	573	387	960	639	266	905
Major Road	287	29	315	322	23	344	259	25	285	272	21	293	274	23	297	279	20	298
CR-522 (Ridge Rd)	1,612	34	1,647	1,710	106	1,816	1,653	25	1,678	1,669	32	1,701	1,666	25	1,691	1,660	40	1,699
New Road	84	16	100	66	10	77	80	25	105	75	27	102	75	21	96	57	11	68
Dey Road	166	118	284	154	55	210	173	49	222	181	59	240	198	64	262	161	110	270
Plainsboro Road	687	199	886	711	175	886	682	126	807	673	122	795	654	100	754	677	182	859
Cranbury Neck Road	533	303	836	569	335	904	499	252	751	499	305	804	511	256	767	556	263	820
CR-535	590	718	1,309	496	603	1,099	529	876	1,405	529	793	1,322	523	840	1,363	520	831	1,351
CR-571	515	136	651	590	223	814	482	99	581	499	99	598	482	97	579	505	120	625
Dutch Neck Road	9	0	9	9	1	10	9	0	9	9	-	9	9	-	9	9	0	9
Hankins Road	317	352	668	274	369	644	329	281	610	315	312	627	328	265	593	313	326	639
Total	**5,415**	**2,141**	**7,556**	**5,517**	**2,242**	**7,760**	**5,327**	**2,072**	**7,399**	**5,377**	**2,096**	**7,473**	**5,293**	**2,078**	**7,371**	**5,376**	**2,169**	**7,546**

WESTBOUND AM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regiona**	**Total**	**Local**	**Regiona**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	705	552	1,257	705	582	1,287	358	627	985	449	611	1,060	345	622	967	771	509	1,281
Major Road	880	100	980	946	272	1,218	623	44	668	859	76	935	596	48	644	830	158	988
CR-522 (Ridge Rd)	1,781	90	1,870	1,719	93	1,813	1,364	20	1,385	1,296	194	1,490	1,441	28	1,469	1,677	175	1,852
New Road	421	96	517	468	87	555	320	99	419	377	92	469	337	88	425	442	106	548
Dey Road	1,205	162	1,367	1,280	286	1,566	1,165	56	1,221	1,146	133	1,279	1,163	59	1,222	1,185	117	1,302
Plainsboro Road	2,252	306	2,558	2,245	323	2,568	1,811	72	1,882	1,987	196	2,183	1,831	80	1,911	2,181	300	2,480
Cranbury Neck Road	1,858	250	2,107	1,997	277	2,273	1,542	148	1,690	1,676	184	1,860	1,554	150	1,704	1,830	237	2,066
CR-535	261	104	365	262	104	366	253	106	359	237	92	329	241	105	346	253	108	361
CR-571	2,492	1,036	3,528	2,408	929	3,337	2,242	937	3,179	2,341	993	3,334	2,222	929	3,151	2,374	996	3,370
Dutch Neck Road	27	19	46	21	7	28	27	17	44	27	18	45	27	17	44	27	3	30
Hankins Road	529	757	1,286	596	650	1,246	491	715	1,207	513	708	1,221	503	719	1,222	544	715	1,258
Total	**12,410**	**3,472**	**15,882**	**12,647**	**3,610**	**16,257**	**10,198**	**2,842**	**13,040**	**10,908**	**3,297**	**14,205**	**10,260**	**2,845**	**13,105**	**12,113**	**3,423**	**15,536**

2028 PROJECTED SCREENLINE VOLUMES -- AUTOS (2 OF 2)

EASTBOUND AM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS COMBINED			ROUTE 1 WITH 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	621	247	868	596	340	936	603	305	908	620	341	961	573	305	878	364	254	618
Major Road	237	34	271	315	20	336	272	6	278	313	23	336	227	23	251	275	92	367
CR-522 (Ridge Rd)	1,814	107	1,921	1,701	105	1,806	1,739	99	1,838	1,711	102	1,813	1,870	122	1,992	1,738	126	1,864
New Road	70	20	90	124	11	135	70	10	80	67	11	78	52	11	63	44	2	46
Dey Road	185	136	320	206	178	384	145	58	203	162	57	220	186	140	325	165	118	283
Plainsboro Road	678	135	812	683	106	790	830	300	1,130	697	104	801	773	123	896	672	164	836
Cranbury Neck Road	535	330	865	563	339	903	431	294	725	654	437	1,091	533	305	838	544	253	797
CR-535	518	723	1,241	509	551	1,060	574	717	1,290	598	669	1,267	634	649	1,283	568	753	1,321
CR-571	536	143	678	564	207	771	584	169	752	529	117	646	538	85	624	469	120	588
Dutch Neck Road	9	1	10	9	1	10	9	1	10	9	1	10	9	1	10	9	0	9
Hankins Road	298	332	631	273	369	642	276	368	645	307	336	643	267	373	640	347	287	634
Total	**5,500**	**2,207**	**7,708**	**5,545**	**2,227**	**7,772**	**5,533**	**2,328**	**7,860**	**5,668**	**2,199**	**7,867**	**5,661**	**2,138**	**7,799**	**5,196**	**2,168**	**7,364**

WESTBOUND AM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS COMBINED			ROUTE 1 WITH 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	593	724	1,317	623	597	1,220	654	571	1,225	687	579	1,266	565	604	1,168	482	355	837
Major Road	979	123	1,102	813	224	1,037	733	241	974	921	253	1,174	911	135	1,046	815	256	1,072
CR-522 (Ridge Rd)	2,002	255	2,257	1,847	51	1,898	1,781	49	1,830	1,711	70	1,780	2,008	166	2,174	1,744	58	1,802
New Road	385	104	489	477	73	550	452	62	514	456	81	537	339	94	433	457	70	526
Dey Road	1,218	133	1,351	1,759	343	2,102	1,121	251	1,372	1,176	204	1,380	1,566	293	1,858	1,190	108	1,298
Plainsboro Road	2,211	400	2,611	1,907	352	2,259	2,803	724	3,527	2,139	293	2,432	2,313	451	2,764	2,075	295	2,370
Cranbury Neck Road	1,860	265	2,125	1,912	252	2,163	1,836	265	2,101	2,621	415	3,037	2,171	333	2,503	1,796	209	2,005
CR-535	239	93	332	223	106	329	261	102	363	244	91	335	234	102	336	260	113	373
CR-571	2,493	881	3,375	2,428	912	3,340	2,294	980	3,274	2,331	880	3,211	2,218	843	3,061	2,226	964	3,190
Dutch Neck Road	22	16	38	21	7	28	21	7	28	21	7	28	20	16	36	27	3	30
Hankins Road	556	690	1,246	582	671	1,253	600	646	1,245	556	658	1,214	501	645	1,146	513	710	1,223
Total	**12,558**	**3,685**	**16,242**	**12,590**	**3,588**	**16,178**	**12,556**	**3,898**	**16,454**	**12,863**	**3,530**	**16,393**	**12,847**	**3,679**	**16,526**	**11,584**	**3,142**	**14,725**

3.2 2028 Projected Screenline Volumes - AM Trucks

2028 PROJECTED SCREENLINE VOLUMES -- TRUCKS (1 OF 2)

EASTBOUND AM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	8	0	8	5	0	6	5	0	6	6	-	6	6	-	6	9	0	9
Major Road	2	0	2	6	(0)	6	4	0	4	3	-	3	3	1	4	4	0	4
CR-522 (Ridge Rd)	66	1	66	74	8	82	39	0	40	46	-	46	42	-	42	64	1	65
New Road	1	0	2	1	0	2	0	0	0	-	-	-	-	-	-	1	0	1
Dey Road	0	15	15	0	4	4	0	1	2	-	6	6	-	6	6	1	15	15
Plainsboro Road	4	7	11	4	10	14	4	4	8	4	3	7	4	4	8	4	6	10
Cranbury Neck Road	15	31	46	29	27	56	17	26	43	17	32	49	27	25	52	21	25	46
CR-535	430	8	438	516	1	517	441	20	461	444	13	457	436	14	450	434	8	442
CR-571	157	2	159	64	15	78	235	1	237	235	3	238	235	2	237	235	1	236
Dutch Neck Road	407	-	407	408	-	408	416	-	416	410	-	410	400	-	400	422	-	422
Hankins Road	147	31	178	144	36	180	46	20	66	49	25	74	58	20	78	46	25	71
Total	**1,238**	**95**	**1,333**	**1,250**	**101**	**1,351**	**1,209**	**74**	**1,283**	**1,214**	**82**	**1,296**	**1,211**	**72**	**1,283**	**1,240**	**82**	**1,322**

WESTBOUND AM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	16	8	24	18	10	29	12	6	18	14	6	20	11	6	17	19	7	26
Major Road	22	1	23	19	3	22	11	1	12	18	2	20	9	1	10	20	1	21
CR-522 (Ridge Rd)	42	4	46	39	2	41	14	1	15	24	14	38	11	-	11	30	12	42
New Road	6	1	7	6	1	8	2	2	4	6	2	8	2	1	3	9	2	11
Dey Road	0	15	16	1	19	20	1	6	7	1	10	11	1	6	7	0	18	18
Plainsboro Road	9	34	43	8	33	42	5	8	13	5	21	26	5	6	11	6	33	39
Cranbury Neck Road	31	14	45	45	20	65	17	3	20	24	6	30	21	3	24	31	14	45
CR-535	52	1	52	54	0	54	56	1	57	52	-	52	52	-	52	51	0	52
CR-571	86	24	109	67	17	84	76	14	91	88	17	105	75	16	91	86	18	104
Dutch Neck Road	35	1	36	38	1	39	17	1	18	17	1	18	20	1	21	25	-	25
Hankins Road	25	30	55	27	19	46	25	29	54	25	28	53	25	28	53	25	30	55
Total	**323**	**132**	**455**	**323**	**126**	**449**	**236**	**72**	**308**	**274**	**107**	**381**	**232**	**68**	**300**	**304**	**134**	**438**

2028 PROJECTED SCREENLINE VOLUMES -- TRUCKS (2 OF 2)

EASTBOUND AM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS COMBINED			ROUTE 1 WITH 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	10	4	14	6	0	6	11	13	23	5	0	6	7	5	12	8	1	9
Major Road	1	0	1	5	0	5	5	(0)	5	6	(0)	6	1	0	1	2	0	3
CR-522 (Ridge Rd)	70	12	82	70	8	78	72	7	79	73	8	81	75	12	86	67	0	67
New Road	1	0	2	1	0	1	1	0	1	1	0	2	1	0	1	1	-	1
Dey Road	1	19	19	1	18	20	0	4	4	0	4	4	0	16	16	1	14	14
Plainsboro Road	4	5	9	4	3	7	5	19	24	4	9	13	5	6	11	4	5	9
Cranbury Neck Road	20	27	46	19	33	52	15	32	47	20	38	58	26	23	49	14	25	39
CR-535	518	7	525	517	1	518	512	7	519	537	7	544	519	7	526	438	8	445
CR-571	138	7	145	66	15	81	71	4	75	48	3	51	47	1	48	133	1	133
Dutch Neck Road	417	-	417	411	-	411	414	-	414	414	-	414	414	-	414	410	-	410
Hankins Road	60	31	91	144	36	180	144	36	180	144	30	175	147	31	178	148	11	158
Total	**1,240**	**112**	**1,352**	**1,243**	**114**	**1,358**	**1,250**	**121**	**1,371**	**1,252**	**100**	**1,351**	**1,240**	**101**	**1,342**	**1,225**	**65**	**1,290**

WESTBOUND AM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS COMBINED			ROUTE 1 WITH 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	20	11	31	19	8	27	15	12	27	18	9	27	16	7	23	14	2	17
Major Road	14	6	21	18	3	21	15	3	18	19	3	22	10	1	11	25	3	28
CR-522 (Ridge Rd)	46	5	51	40	2	42	39	1	40	36	2	38	50	5	55	33	1	34
New Road	7	1	8	7	1	9	3	1	4	5	1	6	5	2	7	7	7	14
Dey Road	0	12	12	2	27	29	0	18	18	1	16	18	4	29	33	0	17	17
Plainsboro Road	9	37	46	9	32	41	14	64	78	8	27	35	9	37	47	6	31	36
Cranbury Neck Road	47	18	65	46	16	61	45	14	59	73	35	109	67	18	85	32	21	53
CR-535	54	0	54	54	0	54	55	0	55	54	0	54	54	0	54	52	0	52
CR-571	75	18	92	66	16	82	60	15	75	60	10	70	76	12	88	68	14	82
Dutch Neck Road	32	0	32	38	1	39	38	1	39	38	1	39	14	1	15	23	-	23
Hankins Road	27	19	46	27	19	46	27	19	47	27	19	46	27	19	46	25	29	54
Total	**331**	**128**	**458**	**327**	**124**	**451**	**311**	**147**	**458**	**340**	**124**	**464**	**332**	**131**	**463**	**285**	**125**	**410**

3.3 2028 Projected Screenline Volumes - PM Autos

2028 PROJECTED SCREENLINE VOLUMES -- AUTOS (1 OF 2)

EASTBOUND PM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	362	331	694	373	304	677	266	211	477	332	259	591	273	196	469	392	294	686
Major Road	245	108	353	241	92	333	237	28	265	254	19	273	188	103	291	235	93	328
CR-522 (Ridge Rd)	2,848	50	2,899	2,883	99	2,982	2,491	29	2,520	2,657	35	2,692	2,608	38	2,646	2,802	53	2,855
New Road	163	43	206	162	28	190	138	29	167	143	26	169	136	30	166	161	42	203
Dey Road	1,368	411	1,779	1,362	269	1,631	1,006	173	1,179	1,083	250	1,333	1,100	182	1,282	1,241	361	1,602
Plainsboro Road	1,339	244	1,583	1,306	297	1,604	1,310	175	1,485	1,350	177	1,527	1,326	181	1,507	1,343	221	1,564
Cranbury Neck Road	855	77	932	880	81	962	708	50	758	760	69	829	696	62	758	764	61	825
CR-535	110	73	183	98	66	164	97	63	160	73	77	150	97	69	166	104	67	171
CR-571	1,415	631	2,046	1,368	673	2,041	1,238	571	1,809	1,315	573	1,888	1,242	564	1,806	1,328	661	1,989
Dutch Neck Road	-	-	-	(66)	-	(66)	-	-	-	(24)	-	(24)	(23)	-	(23)	(52)	-	(52)
Hankins Road	441	481	922	418	529	947	389	431	820	402	455	857	389	436	825	473	444	917
Total	**9,147**	**2,450**	**11,597**	**9,026**	**2,438**	**11,464**	**7,882**	**1,760**	**9,641**	**8,345**	**1,940**	**10,285**	**8,032**	**1,861**	**9,893**	**8,791**	**2,296**	**11,087**

WESTBOUND PM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	364	211	575	346	199	546	365	155	520	365	156	521	333	161	494	348	160	509
Major Road	961	22	983	947	21	968	872	1	873	894	1	895	887	-	887	913	16	929
CR-522 (Ridge Rd)	1,085	28	1,113	1,082	23	1,105	1,062	3	1,066	1,046	4	1,050	1,071	4	1,075	1,109	30	1,139
New Road	150	22	172	163	24	187	131	25	156	133	12	145	156	26	182	109	24	133
Dey Road	631	123	754	652	95	747	617	28	645	626	40	666	623	40	663	633	103	736
Plainsboro Road	510	30	540	524	38	562	492	32	524	512	20	532	532	16	548	494	37	531
Cranbury Neck Road	941	200	1,141	900	182	1,082	884	154	1,038	883	139	1,022	844	159	1,003	925	204	1,128
CR-535	347	396	744	346	383	729	267	415	682	314	395	709	261	420	681	303	396	699
CR-571	670	361	1,031	709	395	1,104	633	331	964	628	378	1,006	651	334	985	673	342	1,016
Dutch Neck Road	0	-	0	0	-	0	-	-	-	-	-	-	-	-	-	0	-	0
Hankins Road	333	259	593	327	278	605	323	292	614	327	271	598	321	293	614	319	283	602
Total	**5,992**	**1,652**	**7,644**	**5,997**	**1,639**	**7,635**	**5,645**	**1,437**	**7,082**	**5,728**	**1,416**	**7,144**	**5,679**	**1,453**	**7,132**	**5,826**	**1,596**	**7,422**

2028 PROJECTED SCREENLINE VOLUMES -- AUTOS (2 OF 2)

EASTBOUND PM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS COMBINED			ROUTE 1 WITH 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	316	279	595	358	297	655	362	331	694	411	385	796	327	289	617	503	277	780
Major Road	149	102	251	234	84	318	245	108	353	234	86	320	219	21	239	224	125	349
CR-522 (Ridge Rd)	3,173	188	3,360	2,884	76	2,960	2,848	50	2,899	2,889	104	2,993	3,049	185	3,234	2,659	51	2,710
New Road	152	33	185	153	31	183	163	43	206	166	27	193	121	17	139	162	34	196
Dey Road	1,310	448	1,759	1,583	504	2,087	1,368	411	1,779	1,324	257	1,581	1,295	456	1,752	1,220	347	1,567
Plainsboro Road	1,350	230	1,580	1,274	199	1,473	1,339	244	1,583	1,335	221	1,556	1,608	456	2,064	1,348	214	1,562
Cranbury Neck Road	890	81	971	826	79	905	855	77	932	1,191	124	1,315	930	87	1,018	806	64	870
CR-535	101	66	168	95	70	165	110	73	183	68	63	131	56	61	117	80	94	174
CR-571	1,327	584	1,911	1,355	646	2,001	1,415	631	2,046	1,291	617	1,907	1,235	574	1,809	1,323	541	1,864
Dutch Neck Road	(24)	-	(24)	(67)	-	(67)	(44)	-	(44)	(23)	-	(23)	(23)	-	(23)	-	-	-
Hankins Road	377	523	900	406	469	875	441	481	922	391	491	882	368	459	827	427	453	880
Total	**9,120**	**2,536**	**11,656**	**9,102**	**2,454**	**11,556**	**9,102**	**2,450**	**11,552**	**9,277**	**2,375**	**11,652**	**9,187**	**2,606**	**11,793**	**8,751**	**2,200**	**10,951**

WESTBOUND PM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS COMBINED			ROUTE 1 WITH 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	336	168	504	362	208	570	364	211	575	345	208	553	354	200	554	286	24	310
Major Road	684	44	728	944	15	958	961	22	983	945	20	965	632	25	656	1,029	57	1,086
CR-522 (Ridge Rd)	1,413	86	1,499	1,070	17	1,088	1,085	28	1,113	1,089	18	1,107	1,421	82	1,503	1,082	16	1,098
New Road	189	31	220	156	93	249	150	22	172	165	25	190	197	37	234	63	-	63
Dey Road	627	109	736	753	173	927	631	123	754	644	90	734	673	147	819	634	96	731
Plainsboro Road	507	27	533	444	19	463	510	30	540	501	37	538	505	22	527	466	43	509
Cranbury Neck Road	977	174	1,151	930	169	1,099	941	200	1,141	1,095	216	1,311	1,127	226	1,352	958	165	1,122
CR-535	324	397	721	321	387	708	347	396	744	333	373	706	336	397	733	263	424	687
CR-571	654	356	1,010	678	387	1,065	670	361	1,031	630	362	992	581	340	921	651	346	997
Dutch Neck Road	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0
Hankins Road	328	280	608	328	273	601	333	259	593	330	278	608	329	278	607	320	257	577
Total	**6,037**	**1,673**	**7,709**	**5,988**	**1,741**	**7,729**	**5,992**	**1,652**	**7,644**	**6,076**	**1,628**	**7,705**	**6,154**	**1,752**	**7,906**	**5,752**	**1,428**	**7,180**

3.4 2028 Projected Screenline Volumes - PM Trucks

2028 PROJECTED SCREENLINE VOLUMES -- TRUCKS (1 OF 2)

EASTBOUND PM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	9	10	19	13	2	15	6	2	8	8	1	9	6	2	8	14	2	17
Major Road	7	4	11	9	4	13	2	0	3	2	-	2	4	4	8	9	4	13
CR-522 (Ridge Rd)	41	1	42	43	1	44	13	0	13	23	1	24	16	-	16	36	1	37
New Road	1	0	1	1	0	1	0	0	0	-	-	-	-	-	-	2	0	2
Dey Road	2	40	41	2	24	25	0	4	4	-	7	7	-	6	6	1	33	34
Plainsboro Road	6	9	15	6	11	17	7	4	11	7	5	12	7	5	12	6	7	13
Cranbury Neck Road	8	5	13	9	5	14	4	1	5	4	3	7	4	4	8	5	5	10
CR-535	21	0	21	19	0	19	23	0	24	27	-	27	20	-	20	21	0	21
CR-571	37	3	40	31	7	38	31	3	34	29	1	30	35	3	38	34	5	39
Dutch Neck Road	5	-	5	8	-	8	2	-	2	2	-	2	2	-	2	5	-	5
Hankins Road	12	13	25	12	13	25	12	12	23	12	12	24	12	11	23	12	11	23
Total	**149**	**86**	**234**	**153**	**66**	**219**	**100**	**26**	**126**	**114**	**30**	**144**	**106**	**35**	**141**	**145**	**69**	**214**

WESTBOUND PM PEAK HOUR

	NO-BUILD			EPA MODIFIED NO-BUILD			NJTA ROUTE 92			TWO-LANE ROUTE 92			ROUTE 92 W/O PERRINE RD. INT.			6-LANE ROUTE 1		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	13	36	49	13	7	20	11	6	17	11	6	17	10	6	16	14	8	22
Major Road	33	1	34	24	0	24	5	0	5	6	-	6	6	-	6	21	1	22
CR-522 (Ridge Rd)	48	1	49	52	1	53	24	0	24	25	-	25	29	-	29	58	0	58
New Road	3	0	3	2	0	2	1	0	1	1	1	2	1	-	1	3	0	3
Dey Road	1	6	7	1	5	7	0	0	1	-	1	1	1	-	1	1	6	7
Plainsboro Road	5	5	10	5	6	10	5	3	7	4	3	7	5	3	8	4	5	9
Cranbury Neck Road	21	7	28	22	8	30	18	11	29	18	8	26	18	10	28	17	7	24
CR-535	13	0	13	17	1	19	19	1	20	13	-	13	18	1	19	11	0	12
CR-571	76	19	95	74	19	93	70	16	86	75	21	96	71	16	87	78	19	97
Dutch Neck Road	0	-	0	0	-	0	-	-	-	-	-	-	-	-	-	0	-	0
Hankins Road	19	14	33	19	14	33	19	13	32	19	13	32	19	13	32	19	14	33
Total	**231**	**89**	**320**	**229**	**61**	**291**	**171**	**51**	**222**	**172**	**53**	**225**	**178**	**49**	**227**	**226**	**61**	**287**

2028 PROJECTED SCREENLINE VOLUMES -- TRUCKS (2 OF 2)

EASTBOUND PM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS			RT 1 W/ 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	7	2	9	12	3	15	9	10	19	14	10	24	10	2	12	27	4	31
Major Road	2	4	6	7	5	12	7	4	11	6	3	10	5	0	5	7	1	7
CR-522 (Ridge Rd)	56	5	61	41	1	42	41	1	42	46	1	47	50	6	56	27	1	28
New Road	1	0	1	3	0	3	1	0	1	1	0	1	1	0	1	1	0	1
Dey Road	2	39	40	3	43	47	2	40	41	1	23	25	2	34	36	1	25	26
Plainsboro Road	6	7	13	6	5	11	6	9	15	6	11	18	9	15	24	7	7	14
Cranbury Neck Road	8	5	12	7	5	12	8	5	13	15	6	21	8	5	13	4	2	7
CR-535	22	1	24	23	(0)	23	21	0	21	20	0	20	27	0	27	23	0	24
CR-571	34	2	36	27	4	31	37	3	40	36	3	39	29	1	30	30	1	31
Dutch Neck Road	2	-	2	9	-	9	5	-	5	2	-	2	2	-	2	4	-	4
Hankins Road	12	13	25	12	12	24	12	13	25	12	13	24	11	12	23	12	7	19
Total	**151**	**79**	**229**	**149**	**78**	**227**	**149**	**86**	**234**	**159**	**71**	**230**	**153**	**75**	**228**	**143**	**49**	**192**

WESTBOUND PM PEAK HOUR

	522 WIDENING & EXTENSION			DEY ROAD WIDENING			PLAINSBORO ROAD WIDENING			CRANBURY NECK ROAD WIDENING			ALL WIDENING PROJECTS			RT 1 W/ 6 LANES, NO SIGNALS		
Screenline Crossing	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**	**Local**	**Regional**	**Total**
CR-610 (Deans Ln)	10	8	18	12	7	19	13	36	49	12	5	17	10	6	16	13	2	15
Major Road	35	1	36	23	1	23	33	1	34	23	0	23	18	1	18	29	1	30
CR-522 (Ridge Rd)	48	6	54	51	1	51	48	1	49	52	1	53	63	6	69	45	0	45
New Road	3	1	4	1	5	5	3	0	3	2	0	3	1	2	3	3	0	3
Dey Road	1	8	8	3	12	15	1	6	7	1	5	6	2	11	13	1	5	6
Plainsboro Road	4	5	10	4	4	8	5	5	10	4	6	10	5	5	10	4	6	10
Cranbury Neck Road	19	7	26	24	8	32	21	7	28	30	8	39	29	12	40	19	7	27
CR-535	19	3	22	18	1	19	13	0	13	17	1	18	19	1	21	18	1	19
CR-571	70	16	86	72	19	91	76	19	95	71	19	90	67	17	84	68	14	83
Dutch Neck Road	1	-	1	0	-	0	0	-	0	0	-	0	0	-	0	1	-	1
Hankins Road	17	14	31	19	14	33	19	14	33	19	14	33	19	16	35	17	15	32
Total	**227**	**69**	**295**	**226**	**71**	**297**	**231**	**89**	**320**	**232**	**60**	**292**	**233**	**77**	**310**	**219**	**52**	**271**

3.5 2028 Total Peak Hour Traffic Crossing Screenline on Local E-W Roads and % Change

2028 Total Peak Hour Traffic Crossing Screenline on Local E-W Roads

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build	7,556	15,882	11,597	7,644	1,333	455	234	320
EPA No-Build	7,760	16,257	11,464	7,635	1,351	449	219	291
"Full" Route 92	7,399	13,040	9,641	7,082	1,283	308	126	222
2-lane Route 92	7,473	14,205	10,285	7,144	1,296	381	144	225
4-lane Route 92 w/o Perrine Rd. Int.	7,371	13,105	9,893	7,132	1,283	300	141	227
6-lane Route 1	7,546	15,536	11,087	7,422	1,322	438	214	287
522 Widening & Extension	7,708	16,242	11,656	7,709	1,352	458	229	295
Dey Road Widening	7,772	16,178	11,556	7,729	1,358	451	227	297
Plainsboro Road Widening	7,860	16,454	11,552	7,644	1,371	458	234	320
Cranbury Neck Widening	7,867	16,393	11,652	7,705	1,351	464	230	292
All Widening Projects Combined	7,799	16,526	11,793	7,906	1,342	463	228	310

Change in 2028 Total Peak Hour Trafic Crossing Screenline on Local E-W Roads (Relative to No-Build)

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build	0%	0%	0%	0%	0%	0%	0%	0%
EPA No-Build	3%	2%	-1%	0%	1%	-1%	-7%	-9%
"Full" Route 92	-2%	-18%	-17%	-7%	-4%	-32%	-46%	-31%
2-lane Route 92	-1%	-11%	-11%	-7%	-3%	-16%	-39%	-30%
4-lane Route 92 w/o Perrine Rd. Int.	-2%	-17%	-15%	-7%	-4%	-34%	-40%	-29%
6-lane Route 1	0%	-2%	-4%	-3%	-1%	-4%	-9%	-11%
522 Widening & Extension	2%	2%	1%	1%	1%	1%	-2%	-8%
Dey Road Widening	3%	2%	0%	1%	2%	-1%	-3%	-7%
Plainsboro Road Widening	4%	4%	0%	0%	3%	1%	0%	0%
Cranbury Neck Widening	4%	3%	0%	1%	1%	2%	-2%	-9%
All Widening Projects Combined	3%	4%	2%	3%	1%	2%	-3%	-3%

Change in 2028 Total Peak Hour Traffic Using Local E-W Roads (Relative to EPA No-Build)

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build								
EPA No-Build	0%	0%	0%	0%	0%	0%	0%	0%
"Full" Route 92	-5%	-20%	-16%	-7%	-5%	-31%	-42%	-24%
2-lane Route 92	-4%	-13%	-10%	-6%	-4%	-15%	-34%	-23%
4-lane Route 92 w/o Perrine Rd. Int.	-5%	-19%	-14%	-7%	-5%	-33%	-36%	-22%
6-lane Route 1	-3%	-4%	-3%	-3%	-2%	-2%	-2%	-1%
522 Widening & Extension	-1%	0%	2%	1%	0%	2%	5%	2%
Dey Road Widening	0%	0%	1%	1%	0%	0%	4%	2%
Plainsboro Road Widening	1%	1%	1%	0%	1%	2%	7%	10%
Cranbury Neck Widening	1%	1%	2%	1%	0%	3%	5%	0%
All Widening Projects Combined	1%	2%	3%	4%	-1%	3%	4%	7%

Change in 2028 Total Peak Hour Traffic Using Local E-W Roads (Relative to "Full" Route 92)

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build								
EPA No-Build								
"Full" Route 92	0%	0%	0%	0%	0%	0%	0%	0%
2-lane Route 92	1%	9%	7%	1%	1%	24%	14%	1%
4-lane Route 92 w/o Perrine Rd. Int.	0%	0%	3%	1%	0%	-3%	11%	2%
6-lane Route 1	2%	19%	15%	5%	3%	42%	69%	29%
522 Widening & Extension	4%	25%	21%	9%	5%	49%	81%	33%
Dey Road Widening	5%	24%	20%	9%	6%	46%	79%	34%
Plainsboro Road Widening	6%	26%	20%	8%	7%	49%	85%	44%
Cranbury Neck Widening	6%	26%	21%	9%	5%	50%	82%	31%
All Widening Projects Combined	5%	27%	22%	12%	5%	50%	80%	40%

3.6 2028 Non-Local Peak Hour Traffic Crossing Screenline on Local E-W Roads and % Change

2028 Non-Local Peak Hour Traffic Crossing Screenline on Local E-W Roads

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build	2,141	3,472	2,450	1,652	95	132	86	89
EPA No-Build	2,242	3,610	2,438	1,639	101	126	66	61
"Full" Route 92	2,072	2,842	1,760	1,437	74	72	26	51
2-lane Route 92	2,096	3,297	1,940	1,416	82	107	30	53
4-lane Route 92 w/o Perrine Rd. Int.	2,078	2,845	1,861	1,453	72	68	35	49
6-lane Route 1	2,169	3,423	2,296	1,596	82	134	69	61
522 Widening & Extension	2,207	3,685	2,536	1,673	112	128	79	69
Dey Road Widening	2,227	3,588	2,454	1,741	114	124	78	71
Plainsboro Road Widening	2,328	3,898	2,450	1,652	121	147	86	89
Cranbury Neck Widening	2,199	3,530	2,375	1,628	100	124	71	60
All Widening Projects Combined	2,138	3,679	2,606	1,752	101	131	75	77

Change in 2028 Non-Local Peak Hour Trafic Crossing Screenline on Local E-W Roads (Relative to No-Build)

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build	0%	0%	0%	0%	0%	0%	0%	0%
EPA No-Build	5%	4%	0%	-1%	7%	-4%	-23%	-31%
"Full" Route 92	-3%	-18%	-28%	-13%	-22%	-46%	-69%	-43%
2-lane Route 92	-2%	-5%	-21%	-14%	-14%	-19%	-65%	-41%
4-lane Route 92 w/o Perrine Rd. Int.	-3%	-18%	-24%	-12%	-24%	-48%	-59%	-45%
6-lane Route 1	1%	-1%	-6%	-3%	-14%	2%	-19%	-32%
522 Widening & Extension	3%	6%	3%	1%	18%	-3%	-8%	-23%
Dey Road Widening	4%	3%	0%	5%	20%	-6%	-9%	-21%
Plainsboro Road Widening	9%	12%	0%	0%	27%	11%	0%	0%
Cranbury Neck Widening	3%	2%	-3%	-1%	5%	-6%	-17%	-33%
All Widening Projects Combined	0%	6%	6%	6%	7%	-1%	-13%	-14%

Change in 2028 Non-Local Peak Hour Traffic Crossing Screenline on Local E-W Roads (Relative to EPA No-Build)

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build								
EPA No-Build	0%	0%	0%	0%	0%	0%	0%	0%
"Full" Route 92	-8%	-21%	-28%	-12%	-27%	-43%	-60%	-17%
2-lane Route 92	-7%	-9%	-20%	-14%	-19%	-15%	-55%	-14%
4-lane Route 92 w/o Perrine Rd. Int.	-7%	-21%	-24%	-11%	-29%	-46%	-47%	-20%
6-lane Route 1	-3%	-5%	-6%	-3%	-19%	6%	5%	-1%
522 Widening & Extension	-2%	2%	4%	2%	11%	1%	19%	12%
Dey Road Widening	-1%	-1%	1%	6%	13%	-1%	17%	16%
Plainsboro Road Widening	4%	8%	0%	1%	19%	17%	30%	46%
Cranbury Neck Widening	-2%	-2%	-3%	-1%	-2%	-1%	8%	-3%
All Widening Projects Combined	-5%	2%	7%	7%	0%	4%	13%	26%

Change in 2028 Non-Local Peak Hour Traffic Crossing Screenline on Local E-W Roads (Relative to "Full" Route 92)

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build								
EPA No-Build								
"Full" Route 92	0%	0%	0%	0%	0%	0%	0%	0%
2-lane Route 92	1%	16%	10%	-1%	11%	49%	15%	4%
4-lane Route 92 w/o Perrine Rd. Int.	0%	0%	6%	1%	-2%	-5%	34%	-4%
6-lane Route 1	5%	20%	30%	11%	11%	86%	165%	20%
522 Widening & Extension	7%	30%	44%	16%	52%	78%	200%	35%
Dey Road Widening	7%	26%	39%	21%	55%	73%	197%	40%
Plainsboro Road Widening	12%	37%	39%	15%	64%	104%	227%	76%
Cranbury Neck Widening	6%	24%	35%	13%	35%	73%	173%	17%
All Widening Projects Combined	3%	29%	48%	22%	37%	82%	186%	52%

3.7 Total Projected Peak Hour Non-Local Volumes at Screenline Crossings

TOTAL PROJECTED (A.M. + P.M.) PEAK-HOUR NON-LOCAL VOLUMES AT SCREENLINE CROSSINGS

Screenline Crossing	NO-BUILD	EPA MODIFIED NO-BUILD	"FULL" ROUTE 92	2-LANE ROUTE 92	4-LANE ROUTE 92 W/O PERRINE RD. INT.	ROUTE 1 WIDENING AND SIGNAL REMOVAL	6-LANE ROUTE 1	522 WIDENING & EXTENSION	DEY ROAD WIDENING	PLAINSBORO ROAD WIDENING	CRANBURY NECK ROAD WIDENING	WIDENING PROJECTS COMBINED
CR-610 (Deans Ln)	1,384	1,447	1,322	1,365	1,380	920	1,248	1,442	1,459	1,488	1,537	1,418
Major Road	265	414	101	119	180	535	292	315	351	385	388	206
CR-522 (Ridge Rd)	208	333	78	280	95	253	312	664	261	237	306	583
New Road	179	151	180	160	166	113	186	192	215	139	146	164
Dey Road	890	757	317	506	363	732	764	904	1,300	910	658	1,126
Plainsboro Road	835	892	423	547	395	764	791	846	721	1,395	708	1,115
Cranbury Neck Road	886	936	646	746	669	747	814	907	900	893	1,280	1,008
CR-535	1,301	1,158	1,482	1,370	1,449	1,393	1,410	1,291	1,115	1,296	1,205	1,217
CR-571	2,212	2,277	1,973	2,085	1,961	2,000	2,162	2,007	2,204	2,181	2,011	1,873
Dutch Neck Road	20	9	18	19	18	3	3	17	9	9	9	18
Hankins Road	1,938	1,909	1,793	1,824	1,785	1,770	1,848	1,903	1,864	1,836	1,840	1,834
Total	**10,117**	**10,284**	**8,334**	**9,021**	**8,461**	**9,229**	**9,829**	**10,488**	**10,398**	**10,770**	**10,087**	**10,560**

3.8 2028 Non-Local Peak Hour Traffic Crossing Screenline on Local E-W Road, as % of Total Screenline-Crossing Traffic

2028 Non-Local Peak Hour Traffic Crossing Screenline on Local E-W Roads, as Percent of Total Screenline-Crossing Traffic

Scenario	AUTOS				TRUCKS			
	AM		PM		AM		PM	
	E/B	W/B	E/B	W/B	E/B	W/B	E/B	W/B
No-Build	28%	22%	21%	22%	7%	29%	37%	28%
EPA No-Build	29%	22%	21%	21%	7%	28%	30%	21%
Route 92	28%	22%	18%	20%	6%	23%	21%	23%
2-lane Route 92	28%	23%	19%	20%	6%	28%	21%	24%
4-lane Route 92 w/o Perrine Rd. Ir	28%	22%	19%	20%	6%	23%	25%	22%
6-lane Route 1	29%	22%	21%	21%	6%	31%	32%	21%
522 Widening & Extension	29%	23%	22%	22%	8%	28%	34%	23%
Dey Road Widening	29%	22%	21%	23%	8%	28%	34%	24%
Plainsboro Road Widening	30%	24%	21%	22%	9%	32%	37%	28%
Cranbury Neck Widening	28%	22%	20%	21%	7%	27%	31%	20%
All Widening Projects Combined	27%	22%	22%	22%	8%	28%	33%	25%

3.9 Total Projected AM Peak Hour Westbound Volumes at Screenline Crossings

TOTAL PROJECTED A.M. PEAK-HOUR WESTBOUND VOLUMES AT SCREENLINE CROSSINGS

Screenline Crossing	NO-BUILD	EPA MODIFIED NO-BUILD	NJTA ROUTE 92	TWO-LANE ROUTE 92	ROUTE 92 W/O PERRINE RD. INT.	6-LANE ROUTE 1	522 WIDENING & EXTENSION	DEY ROAD WIDENING	PLAINSBORO ROAD WIDENING	CRANBURY NECK ROAD WIDENING	WIDENING PROJECTS COMBINED
CR-610 (Deans Ln)	1,281	1,315	1,003	1,080	984	1,307	1,348	1,247	1,252	1,293	1,191
Major Road	1,003	1,240	680	955	654	1,009	1,123	1,058	992	1,196	1,057
CR-522 (Ridge Rd)	1,916	1,854	1,399	1,528	1,480	1,894	2,308	1,940	1,870	1,819	2,229
New Road	524	563	423	477	428	558	497	559	518	543	440
Dey Road	1,383	1,586	1,228	1,290	1,229	1,320	1,363	2,131	1,390	1,398	1,891
Plainsboro Road	2,601	2,609	1,895	2,209	1,922	2,520	2,657	2,299	3,605	2,467	2,811
Cranbury Neck Road	2,152	2,338	1,711	1,890	1,728	2,111	2,190	2,224	2,160	3,145	2,588
CR-571	3,637	3,421	3,270	3,439	3,242	3,474	3,467	3,422	3,349	3,281	3,149
Hankins Road	1,341	1,292	1,261	1,274	1,275	1,313	1,292	1,299	1,292	1,259	1,192
Total	**15,838**	**16,219**	**12,870**	**14,142**	**12,942**	**15,507**	**16,246**	**16,179**	**16,427**	**16,401**	**16,548**

3.10 Total Projected PM Peak Hour Eastbound Volumes at Screenline Crossings

TOTAL PROJECTED P.M. PEAK-HOUR EASTBOUND VOLUMES AT SCREENLINE CROSSINGS

Screenline Crossing	NO-BUILD	EPA MODIFIED NO-BUILD	NJTA ROUTE 92	TWO-LANE ROUTE 92	ROUTE 92 W/O PERRINE RD. INT.	6-LANE ROUTE 1	522 WIDENING & EXTENSION	DEY ROAD WIDENING	PLAINSBORO ROAD WIDENING	CRANBURY NECK ROAD WIDENING	WIDENING PROJECTS COMBINED
CR-610 (Deans Ln)	713	692	485	600	477	703	604	670	713	819	629
Major Road	364	346	268	275	299	341	257	329	364	330	245
CR-522 (Ridge Rd)	2,941	3,025	2,533	2,716	2,662	2,892	3,422	3,002	2,941	3,040	3,290
New Road	207	191	168	169	166	205	185	186	207	194	139
Dey Road	1,820	1,656	1,183	1,340	1,288	1,636	1,799	2,133	1,820	1,606	1,787
Plainsboro Road	1,598	1,620	1,496	1,539	1,519	1,577	1,593	1,484	1,598	1,574	2,088
Cranbury Neck Road	945	976	763	836	766	835	983	917	945	1,337	1,030
CR-571	2,086	2,079	1,843	1,918	1,844	2,028	1,947	2,032	2,086	1,947	1,839
Hankins Road	947	972	843	881	848	940	925	900	947	906	850
Total	**11,622**	**11,557**	**9,582**	**10,274**	**9,869**	**11,156**	**11,716**	**11,654**	**11,622**	**11,752**	**11,898**

3.11 Projected Peak Hour (AM + PM) Truck Volumes at Screenline Crossings

PROJECTED PEAK HOUR (A.M. + P.M.) TRUCK VOLUMES AT SCREENLINE CROSSINGS

Screenline Crossing	NO-BUILD	EPA MODIFIED NO-BUILD	"FULL" ROUTE 92	2-LANE ROUTE 92	4-LANE ROUTE 92 W/O PERRINE RD. INT.	ROUTE 1 WIDENING AND SIGNAL REMOVAL
CR-610 (Deans Ln)	101	69	48	52	47	72
Major Road	69	64	24	31	28	68
CR-522 (Ridge Rd)	203	220	92	133	98	174
New Road	13	13	6	10	4	20
Dey Road	79	56	14	25	20	64
Plainsboro Road	79	82	39	52	39	69
Cranbury Neck Road	131	166	98	112	112	125
CR-535	525	608	561	549	541	540
CR-571	403	294	448	469	453	329
Dutch Neck Road	449	455	436	430	423	438
Hankins Road	291	283	176	183	186	264
Total	**2,343**	**2,310**	**1,940**	**2,046**	**1,951**	**2,162**

3.12 Projected Daily 2-Way Volumes at Screenline Crossings (Unconstrained & Constrained)

PROJECTED DAILY 2-WAY VOLUMES AT SCREENLINE CROSSINGS (UNCONSTRAINED)

Screenline Crossing	NO-BUILD	EPA MODIFIED NO-BUILD	NJTA ROUTE 92	TWO-LANE ROUTE 92	ROUTE 92 W/O PERRINE RD. INT.	6-LANE ROUTE 1	522 WIDENING & EXTENSION	DEY ROAD WIDENING	PLAINSBORO ROAD WIDENING	CRANBURY NECK ROAD WIDENING	WIDENING PROJECTS COMBINED
CR-610 (Deans Ln)	23,200	23,600	19,800	21,400	19,600	23,000	22,400	23,000	23,500	24,300	21,900
Major Road	18,000	19,500	14,100	16,200	14,300	17,400	16,100	18,100	17,700	19,000	14,900
CR-522 (Ridge Rd)	51,500	52,900	44,900	47,100	46,500	51,700	61,900	53,100	52,600	52,800	61,100
New Road	6,700	6,800	5,700	6,000	5,800	6,500	6,700	7,600	6,500	6,700	5,900
Route 92	-	-	**41,000**	**26,400**	**38,700**	-	-	-	-	-	-
Dey Road	28,400	28,100	21,900	23,600	23,000	26,600	28,300	37,400	27,900	26,500	32,400
Plainsboro Road	37,600	38,000	31,600	33,900	31,700	36,700	37,400	33,700	46,000	36,000	42,300
Cranbury Neck Road	34,300	35,900	28,900	30,800	29,000	33,100	35,100	34,800	33,600	46,500	39,300
CR-535	20,800	19,800	21,100	20,400	20,600	20,700	20,600	19,200	21,300	20,500	20,600
CR-571	51,100	50,600	46,500	48,600	46,500	49,800	48,900	49,700	49,300	46,700	44,400
Dutch Neck Road	3,400	2,900	3,300	3,100	3,000	2,900	3,200	2,900	3,000	3,100	3,000
Hankins Road	25,100	24,800	22,800	23,200	22,900	24,000	23,900	24,400	24,600	24,200	23,300
Total	**300,100**	**302,900**	**301,600**	**300,700**	**301,600**	**292,400**	**304,500**	**303,900**	**306,000**	**306,300**	**309,100**

PROJECTED DAILY 2-WAY VOLUMES AT SCREENLINE CROSSINGS (CONSTRAINED)

Screenline Crossing	NO-BUILD	EPA MODIFIED NO-BUILD	NJTA ROUTE 92	TWO-LANE ROUTE 92	ROUTE 92 W/O PERRINE RD. INT.	6-LANE ROUTE 1	522 WIDENING & EXTENSION	DEY ROAD WIDENING	PLAINSBORO ROAD WIDENING	CRANBURY NECK ROAD WIDENING	WIDENING PROJECTS COMBINED
CR-610 (Deans Ln)	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
Major Road	18,000	18,000	14,100	16,200	14,300	17,400	16,100	18,000	17,700	18,000	14,900
CR-522 (Ridge Rd)	51,500	52,000	44,900	47,100	46,500	51,700	61,900	52,000	52,000	52,000	61,100
New Road	6,700	6,800	5,700	6,000	5,800	6,500	6,700	7,600	6,500	6,700	5,900
Route 92	-	-	**41,000**	**26,400**	**38,700**	-	-	-	-	-	-
Dey Road	26,000	26,000	21,900	23,600	23,000	26,000	26,000	37,400	26,000	26,000	32,400
Plainsboro Road	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	46,000	26,000	42,300
Cranbury Neck Road	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	46,500	39,300
CR-535	20,800	19,800	21,100	20,400	20,600	20,700	20,600	19,200	21,300	20,500	20,600
CR-571	51,100	50,600	46,500	48,600	46,500	49,800	48,900	49,700	49,300	46,700	44,400
Dutch Neck Road	3,400	2,900	3,300	3,100	3,000	2,900	3,200	2,900	3,000	3,100	3,000
Hankins Road	25,100	24,800	22,800	23,200	22,900	24,000	23,900	24,400	24,600	24,200	23,300
Total	**272,600**	**270,900**	**291,300**	**284,600**	**291,300**	**269,000**	**277,300**	**281,200**	**290,400**	**287,700**	**305,200**

4.0 Travel Time Summaries

4.1 Travel Time Data - June, 2002

TRAVEL TIME DATA JUNE, 2002

	Highway	Dir	From	To	SURVEY A.M. 7-9	SURVEY MIDDAY 12-2	SURVEY P.M. 4:30-6:30	5/29/02 P.M.	MODEL A.M. 7-9	MODEL MIDDAY 12-2	MODEL P.M. 4:30-6:30
	NJ-18	WB	Int. 9	US-1	2.5	3.5	5.3	1.4	2.8	2.1	2.4
	US-1	SB	NJ-18	CR-522	32.6	23.5	35.9	17.5	16.3	15.2	16.0
	US-1	SB	CR-522	Scudders Mill	4.1	3.5	6.7	4.1	8.3	6.3	6.3
	US-1	SB	Scudders Mill	CR-571	7.8	6.1	8.7	4.1	2.0	1.9	2.0
	US-1	SB	CR-571	I-295	4.3	3.8	6.5	10.2	7.9	7.7	8.8
	I-295	SB	US-1	I-195	11.5	10.7	9.2	7.3	7.3	7.3	7.4
	I-195	EB	I-295	NJ Tpke	6.4	5.8	8.0	6.5	7.3	7.3	7.5
	NJ Tpke	NB	Int. 7A	Int. 8	10.1	8.2	9.9	7.5	7.9	7.6	7.8
	NJ Tpke	NB	Int. 8	Int. 8A	8.4	7.7	8.0	7.1	7.2	6.8	6.9
	NJ Tpke	NB	Int. 8A	Int. 9	14.0	11.7	14.4	#N/A	10.9	10.6	10.6
	NJ-18	EB	US-1	Int. 9	10.0	3.9	6.8	2.3	2.6	2.1	2.8
	US-1	NB	CR-522	NJ-18	29.2	22.9	28.3	23.5	17.1	15.4	16.1
	US-1	NB	Scudders Mill	CR-522	8.3	6.3	8.1	#N/A	6.3	6.5	7.8
	US-1	NB	CR-571	Scudders Mill	5.6	3.2	5.8	#N/A	2.2	1.9	2.0
	US-1	NB	I-295	CR-571	11.0	7.2	12.3	#N/A	10.2	7.7	8.0
	I-295	NB	I-195	US-1	7.1	7.4	7.1	#N/A	7.4	7.2	7.2
	I-195	WB	NJ Tpke	I-295	8.4	6.8	9.8	#N/A	7.6	7.3	7.3
	NJ Tpke	SB	Int. 8	Int. 7A	15.1	9.8	13.6	#N/A	7.8	7.7	7.8
	NJ Tpke	SB	Int. 8A	Int. 8	10.2	8.0	10.9	#N/A	6.8	6.8	7.1
	NJ Tpke	SB	Int. 9	Int. 8A	10.5	9.5	11.9	#N/A	10.6	10.6	10.7
	NJ-32	WB	Int. 8A	US-130	2.1	2.0	2.3	2.9	2.0	1.6	1.7
	US-130	NB	NJ-32	CR-522	3.4	3.5	3.0	2.8	2.5	2.4	2.4
	CR-522	WB	US-130	US-1	7.1	7.3	7.4	5.8	6.8	6.8	6.8
	NJ-32	EB	US-130	Int. 8A	3.3	2.9	4.2	#N/A	1.8	1.7	2.0
	US-130	SB	CR-522	NJ-32	3.6	3.3	3.4	#N/A	2.4	2.4	2.5
	CR-522	EB	US-1	US-130	6.3	6.8	6.1	#N/A	6.7	6.8	6.8
	US-130	SB	NJ-32	Dey	2.4	2.5	2.5	2.6	2.2	2.1	2.2
	Dey	WB	US-130	Scudders Mill	7.2	6.3	6.1	5.9	8.8	7.1	7.4
	Scudders Mill	WB	Dey	US-1	3.9	4.0	4.1	5.3	4.1	3.3	3.3
	US-130	NB	Dey	NJ-32	2.5	2.0	2.0	#N/A	2.2	2.1	2.2
	Dey	EB	Scudders Mill	US-130	8.2	6.8	9.2	#N/A	7.3	7.1	8.4
	Scudders Mill	EB	US-1	Dey	4.4	3.7	6.8	#N/A	3.3	3.3	3.7
	NJ-33	EB	Int. 8	NJ-133	1.4	1.3	1.0	#N/A	2.3	2.3	2.3
	NJ-133	WB	NJ-33	CR-571	4.7	5.3	3.4	#N/A	3.6	3.6	3.6
	CR-571	WB	NJ-133	US-1	13.7	10.5	6.9	#N/A	12.4	9.2	9.2
	NJ-33	WB	NJ-133	Int. 8	1.0	1.1	1.0	0.0	2.3	2.3	2.3
	NJ-133	EB	CR-571	NJ-33	4.6	5.0	5.0	17.8	3.7	3.5	3.6
	CR-571	EB	US-1	NJ-133	9.6	10.1	11.7	0.0	9.2	9.2	10.6

TRAVEL TIME DATA JUNE, 2002

	Highway	Dir	From	To	SURVEY A.M. 7-9	SURVEY MIDDAY 12-2	SURVEY P.M. 4:30-6:30	5/29/02 P.M.	MODEL A.M. 7-9	MODEL MIDDAY 12-2	MODEL P.M. 4:30-6:30			
↓	NJ-32	WB	Int. 8A	US-130	2.1	2.0	2.3	2.9	2.0	1.6	1.7			
↓	US-130	NB	NJ-32	CR-522	3.4	3.5	3.0	2.8	2.5	2.4	2.4			
↓	CR-522	WB	US-130	US-1	7.1	7.3	7.4	5.8	6.8	6.8	6.8			
↑	NJ-32	EB	US-130	Int. 8A	3.3	2.9	4.2	#N/A	1.8	1.7	2.0			
↑	US-130	SB	CR-522	NJ-32	3.6	3.3	3.4	#N/A	2.4	2.4	2.5			
↑	CR-522	EB	US-1	US-130	6.3	6.8	6.1	#N/A	6.7	6.8	6.8			
↓	US-130	SB	NJ-32	Dey	2.4	2.5	2.5	2.6	2.2	2.1	2.2			
↓	Dey	WB	US-130	Scudders Mill	7.2	6.3	6.1	5.9	8.8	7.1	7.4			
↓	Scudders Mill	WB	Dey	US-1	3.9	4.0	4.1	5.3	4.1	3.3	3.3			
↑	US-130	NB	Dey	NJ-32	2.5	2.0	2.0	#N/A	2.2	2.1	2.2			
↑	Dey	EB	Scudders Mill	US-130	8.2	6.8	9.2	#N/A	7.3	7.1	8.4			
↑	Scudders Mill	EB	US-1	Dey	4.4	3.7	6.8	#N/A	3.3	3.3	3.7			
↓	NJ-33	EB	Int. 8	NJ-133	1.4	1.3	1.0	#N/A	2.3	2.3	2.3			
↓	NJ-133	WB	NJ-33	CR-571	4.7	5.3	3.4	#N/A	3.6	3.6	3.6			
↓	CR-571	WB	NJ-133	US-1	13.7	10.5	6.9	#N/A	12.4	9.2	9.2			
↑	NJ-33	WB	NJ-133	Int. 8	1.0	1.1	1.0	0.0	2.3	2.3	2.3			
↑	NJ-133	EB	CR-571	NJ-33	4.6	5.0	5.0	17.8	3.7	3.5	3.6			
↑	CR-571	EB	US-1	NJ-133	9.6	10.1	11.7	0.0	9.2	9.2	10.6			
	Northbound (US-1 @ I-295 to NJ Tpke Int. 9):													
	via US-1, NJ-18				64.1	43.5	61.3	#N/A	38.4	33.6	36.7	67%	29%	67%
	via US-1, CR-522, US-130, NJ-32, NJ Tpke				52.1	41.4	54.3	#N/A	40.5	37.6	39.7	29%	10%	37%
	via US-1, Scudders Mill/Dey, US-130, NJ-32, NJ Tpke				49	37.5	54.7	#N/A	37.9	34.4	36.9	29%	9%	48%
	via US-1, CR-571, NJ-33, NJ-133, NJ Tpke				48.6	42.8	52.4	#N/A	43.5	40.1	42	12%	7%	25%
	via I-295, I-195, NJ Tpke				50.4	44.1	49.5	#N/A	40.6	39.6	40.2	24%	11%	23%
	Southbound (NJ Tpke. Int. 9 to US-1 @ I-295):													
	via NJ-18, US-1				51.3	40.4	63.1	37.25	37.3	33.2	35.5	38%	22%	78%
	via NJ Tpke, NJ-32, US-130, CR-522, US-1				39.3	35.7	46.5	#N/A	40.1	37.3	38.7	-2%	-4%	20%
	via NJ Tpke, NJ-32, US-130, Scudders Mill/Dey, US-1				38.2	34.2	42.1	#N/A	37.6	34.3	36.1	2%	0%	17%
	via NJ Tpke, NJ-133, NJ-33, CR-571, US-1				44.8	38.4	40.6	#N/A	43.6	40.2	41.7	3%	-4%	-3%
	via NJ Tpke, I-195, I-295				51.3	41.5	53.3	#N/A	40.2	39.6	40.1	28%	5%	33%

4.2 Estimated Peak Hour Travel Times - 2001 & 2028 No Action

ESTIMATED PEAK HOUR TRAVEL TIMES (minutes)

FROM	TO	2001		2028 NO ACTION		CHANGE		% CHANGE	
		AM	PM	AM	PM	AM	PM	AM	PM
Princeton Junction	Princeton (University)	12.3	9.4	22.9	15.1	10.5	5.7	86%	61%
Princeton Junction	Plainsboro Center	18.2	9.8	30.3	12.4	12.1	2.6	66%	26%
Princeton Junction	South Brunswick Ctr.	23.8	26.8	41.8	38.2	18.0	11.4	76%	43%
Princeton Junction	Interchange 8A	22.3	20.9	35.7	30.4	13.4	9.5	60%	45%
Princeton Junction	Hightstown	19.1	21.1	21.4	29.0	2.3	8.0	12%	38%
Princeton (University)	Princeton Junction	8.5	14.8	13.1	22.4	4.6	7.6	54%	52%
Princeton (University)	Plainsboro Center	13.3	10.7	22.6	14.1	9.3	3.5	70%	33%
Princeton (University)	South Brunswick Ctr.	18.8	22.7	30.6	34.8	11.8	12.2	63%	54%
Princeton (University)	Interchange 8A	25.9	28.6	36.8	39.6	10.9	11.1	42%	39%
Princeton (University)	Hightstown	24.9	33.5	30.9	48.8	6.0	15.3	24%	46%
Plainsboro Center	Princeton Junction	10.1	15.2	15.3	25.2	5.3	10.0	52%	66%
Plainsboro Center	Princeton (University)	11.0	11.8	12.8	18.3	1.8	6.5	17%	55%
Plainsboro Center	South Brunswick Ctr.	16.3	23.8	21.4	36.6	5.0	12.8	31%	54%
Plainsboro Center	Interchange 8A	18.3	20.8	19.0	31.1	0.6	10.3	4%	50%
Plainsboro Center	Hightstown	21.4	27.2	25.0	44.9	3.5	17.7	16%	65%
South Brunswick Ctr.	Princeton Junction	28.5	27.0	49.7	36.3	21.2	9.3	74%	35%
South Brunswick Ctr.	Princeton (University)	24.4	18.9	48.5	27.3	24.2	8.4	99%	45%
South Brunswick Ctr.	Plainsboro Center	26.9	17.9	52.5	22.1	25.5	4.2	95%	23%
South Brunswick Ctr.	Interchange 8A	13.4	12.1	14.6	15.5	1.1	3.4	8%	28%
South Brunswick Ctr.	Hightstown	28.2	30.1	38.0	45.6	9.7	15.6	34%	52%
Interchange 8A	Princeton Junction	23.6	21.0	42.1	30.1	18.5	9.1	79%	43%
Interchange 8A	Princeton (University)	33.1	26.8	52.4	35.1	19.3	8.3	59%	31%
Interchange 8A	Plainsboro Center	32.8	18.0	47.5	20.8	14.7	2.8	45%	15%
Interchange 8A	South Brunswick Ctr.	19.5	10.8	20.2	15.4	0.6	4.5	3%	42%
Interchange 8A	Hightstown	20.3	23.4	30.4	38.0	10.1	14.6	50%	63%
Hightstown	Princeton Junction	23.6	17.9	43.9	20.2	20.4	2.3	86%	13%
Hightstown	Princeton (University)	33.9	24.9	64.3	32.0	30.4	7.0	90%	28%
Hightstown	Plainsboro Center	38.9	21.9	68.2	25.4	29.4	3.5	76%	16%
Hightstown	South Brunswick Ctr.	40.4	25.0	66.5	35.4	26.1	10.4	65%	42%
Hightstown	Interchange 8A	25.6	19.1	51.7	27.6	26.1	8.5	102%	44%
					Average:	13.1	8.5	54.6%	41.5%

4.3 Estimated Peak Hour Travel Times - No Build & Build Route 92

ESTIMATED 2028 PEAK HOUR TRAVEL TIMES (minutes)

		NO BUILD		WITH 92		CHANGE		% CHANGE	
FROM	TO	AM	PM	AM	PM	AM	PM	AM	PM
Princeton Junction	Princeton (University)	22.9	15.1	19.7	14.2	-3.2	-0.9	-14%	-6%
Princeton Junction	Plainsboro Center	30.3	12.4	27.5	11.8	-2.8	-0.6	-9%	-5%
Princeton Junction	South Brunswick Ctr.	41.8	38.2	37.0	32.5	-4.8	-5.7	-12%	-15%
Princeton Junction	Interchange 8A	35.7	30.4	40.1	28.9	4.4	-1.6	12%	-5%
Princeton Junction	Hightstown	21.4	29.0	20.4	26.8	-1.0	-2.2	-5%	-8%
Princeton (University)	Princeton Junction	13.1	22.4	12.0	20.1	-1.1	-2.4	-8%	-11%
Princeton (University)	Plainsboro Center	22.6	14.1	19.0	12.3	-3.6	-1.9	-16%	-13%
Princeton (University)	South Brunswick Ctr.	30.6	34.8	27.4	27.7	-3.2	-7.2	-11%	-21%
Princeton (University)	Interchange 8A	36.8	39.6	30.5	27.8	-6.3	-11.9	-17%	-30%
Princeton (University)	Hightstown	30.9	48.8	29.6	44.8	-1.4	-4.0	-4%	-8%
Plainsboro Center	Princeton Junction	15.3	25.2	12.7	21.8	-2.7	-3.3	-17%	-13%
Plainsboro Center	Princeton (University)	12.8	18.3	12.9	16.9	0.2	-1.3	1%	-7%
Plainsboro Center	South Brunswick Ctr.	21.4	36.6	20.4	28.4	-1.0	-8.2	-5%	-22%
Plainsboro Center	Interchange 8A	19.0	31.1	20.0	23.0	1.0	-8.1	5%	-26%
Plainsboro Center	Hightstown	25.0	44.9	24.2	38.6	-0.8	-6.2	-3%	-14%
South Brunswick Ctr.	Princeton Junction	49.7	36.3	38.2	33.8	-11.5	-2.5	-23%	-7%
South Brunswick Ctr.	Princeton (University)	48.5	27.3	32.6	23.8	-15.9	-3.5	-33%	-13%
South Brunswick Ctr.	Plainsboro Center	52.5	22.1	37.7	21.0	-14.8	-1.0	-28%	-5%
South Brunswick Ctr.	Interchange 8A	14.6	15.5	15.5	13.5	1.0	-2.0	7%	-13%
South Brunswick Ctr.	Hightstown	38.0	45.6	33.0	43.6	-5.0	-2.0	-13%	-4%
Interchange 8A	Princeton Junction	42.1	30.1	33.0	30.9	-9.1	0.8	-22%	3%
Interchange 8A	Princeton (University)	52.4	35.1	34.4	25.9	-18.0	-9.2	-34%	-26%
Interchange 8A	Plainsboro Center	47.5	20.8	34.4	19.1	-13.1	-1.7	-28%	-8%
Interchange 8A	South Brunswick Ctr.	20.2	15.4	15.9	13.3	-4.2	-2.1	-21%	-13%
Interchange 8A	Hightstown	30.4	38.0	27.8	39.1	-2.6	1.1	-9%	3%
Hightstown	Princeton Junction	43.9	20.2	39.3	20.6	-4.6	0.4	-11%	2%
Hightstown	Princeton (University)	64.3	32.0	57.2	31.7	-7.2	-0.3	-11%	-1%
Hightstown	Plainsboro Center	68.2	25.4	60.7	25.7	-7.5	0.4	-11%	1%
Hightstown	South Brunswick Ctr.	66.5	35.4	63.9	35.4	-2.6	0.0	-4%	0%
Hightstown	Interchange 8A	51.7	27.6	56.7	30.0	4.9	2.4	10%	9%
					Average:	-4.5	-2.8	-11.1%	-9.2%

4.4 Estimated Peak Hour Travel Times - No Build & Improved Route 1

ESTIMATED 2028 PEAK HOUR TRAVEL TIMES (minutes)

FROM	TO	NO BUILD		6-LANE ROUTE 1 W/SIGNALS		CHANGE		% CHANGE	
		AM	PM	AM	PM	AM	PM	AM	PM
Princeton Junction	Princeton (University)	22.9	15.1	21.1	14.8	-1.8	-0.3	-8%	-2%
Princeton Junction	Plainsboro Center	30.3	12.4	29.2	12.6	-1.1	0.2	-4%	2%
Princeton Junction	South Brunswick Ctr.	41.8	38.2	38.1	35.8	-3.7	-2.4	-9%	-6%
Princeton Junction	Interchange 8A	35.7	30.4	33.9	29.3	-1.8	-1.1	-5%	-4%
Princeton Junction	Hightstown	21.4	29.0	20.6	28.9	-0.8	-0.1	-4%	0%
Princeton (University)	Princeton Junction	13.1	22.4	12.1	21.7	-0.9	-0.7	-7%	-3%
Princeton (University)	Plainsboro Center	22.6	14.1	21.5	12.6	-1.0	-1.6	-5%	-11%
Princeton (University)	South Brunswick Ctr.	30.6	34.8	27.6	31.1	-3.1	-3.7	-10%	-11%
Princeton (University)	Interchange 8A	36.8	39.6	34.1	36.3	-2.7	-3.3	-7%	-8%
Princeton (University)	Hightstown	30.9	48.8	29.9	48.0	-1.0	-0.8	-3%	-2%
Plainsboro Center	Princeton Junction	15.3	25.2	14.4	24.2	-0.9	-1.0	-6%	-4%
Plainsboro Center	Princeton (University)	12.8	18.3	12.9	17.8	0.1	-0.5	1%	-3%
Plainsboro Center	South Brunswick Ctr.	21.4	36.6	19.2	32.2	-2.1	-4.4	-10%	-12%
Plainsboro Center	Interchange 8A	19.0	31.1	18.2	27.5	-0.8	-3.7	-4%	-12%
Plainsboro Center	Hightstown	25.0	44.9	24.8	42.2	-0.2	-2.7	-1%	-6%
South Brunswick Ctr.	Princeton Junction	49.7	36.3	44.5	35.9	-5.2	-0.4	-10%	-1%
South Brunswick Ctr.	Princeton (University)	48.5	27.3	40.4	24.9	-8.2	-2.4	-17%	-9%
South Brunswick Ctr.	Plainsboro Center	52.5	22.1	43.7	21.5	-8.7	-0.6	-17%	-2%
South Brunswick Ctr.	Interchange 8A	14.6	15.5	13.6	15.2	-1.0	-0.3	-7%	-2%
South Brunswick Ctr.	Hightstown	38.0	45.6	35.0	45.3	-3.0	-0.3	-8%	-1%
Interchange 8A	Princeton Junction	42.1	30.1	37.7	30.7	-4.4	0.6	-10%	2%
Interchange 8A	Princeton (University)	52.4	35.1	50.5	35.1	-1.9	0.0	-4%	0%
Interchange 8A	Plainsboro Center	47.5	20.8	43.1	21.0	-4.4	0.3	-9%	1%
Interchange 8A	South Brunswick Ctr.	20.2	15.4	19.6	14.7	-0.5	-0.7	-3%	-5%
Interchange 8A	Hightstown	30.4	38.0	28.2	38.2	-2.2	0.3	-7%	1%
Hightstown	Princeton Junction	43.9	20.2	43.6	20.0	-0.3	-0.2	-1%	-1%
Hightstown	Princeton (University)	64.3	32.0	61.1	31.6	-3.2	-0.4	-5%	-1%
Hightstown	Plainsboro Center	68.2	25.4	65.7	25.0	-2.5	-0.3	-4%	-1%
Hightstown	South Brunswick Ctr.	66.5	35.4	64.4	33.2	-2.1	-2.2	-3%	-6%
Hightstown	Interchange 8A	51.7	27.6	50.3	26.7	-1.4	-0.9	-3%	-3%
					Average:	-2.4	-1.1	-6.3%	-3.7%

4.5 Estimated Peak Hour Travel Times - No Build & 6-Lane Route 1 with No Signals

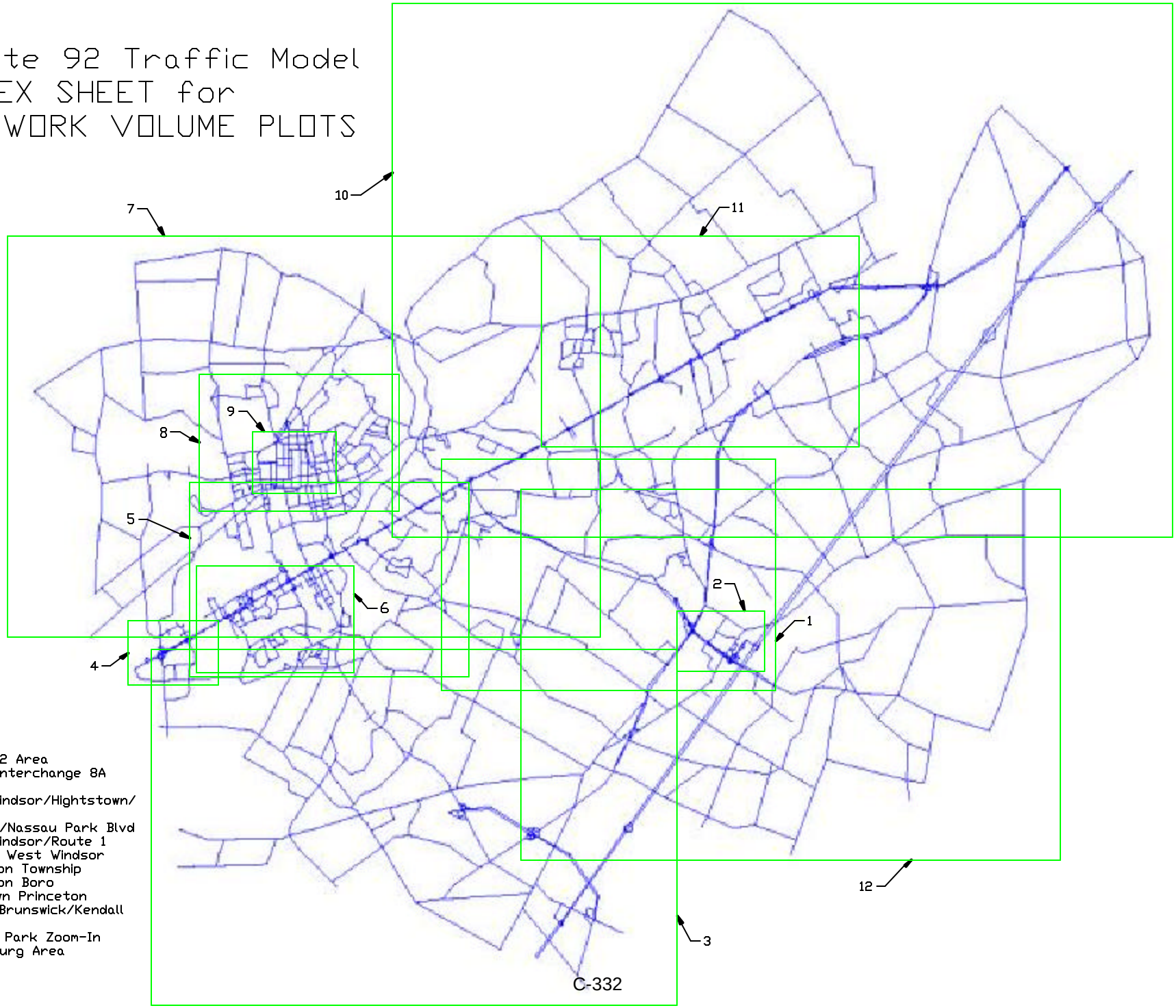
ESTIMATED 2028 PEAK HOUR TRAVEL TIMES (minutes)

FROM	TO	NO BUILD		IMPROVED ROUTE 1		CHANGE		% CHANGE	
		AM	PM	AM	PM	AM	PM	AM	PM
Princeton Junction	Princeton (University)	22.9	15.1	20.8	15.0	-2.0	-0.1	-9%	-1%
Princeton Junction	Plainsboro Center	30.3	12.4	27.7	13.1	-2.6	0.7	-9%	6%
Princeton Junction	South Brunswick Ctr.	41.8	38.2	38.5	35.6	-3.3	-2.7	-8%	-7%
Princeton Junction	Interchange 8A	35.7	30.4	33.9	29.2	-1.8	-1.2	-5%	-4%
Princeton Junction	Hightstown	21.4	29.0	21.3	29.0	-0.2	-0.1	-1%	0%
Princeton (University)	Princeton Junction	13.1	22.4	12.4	21.5	-0.7	-0.9	-5%	-4%
Princeton (University)	Plainsboro Center	22.6	14.1	21.8	12.7	-0.8	-1.5	-4%	-10%
Princeton (University)	South Brunswick Ctr.	30.6	34.8	28.1	31.7	-2.6	-3.1	-8%	-9%
Princeton (University)	Interchange 8A	36.8	39.6	33.0	35.6	-3.8	-4.0	-10%	-10%
Princeton (University)	Hightstown	30.9	48.8	30.1	48.2	-0.8	-0.6	-3%	-1%
Plainsboro Center	Princeton Junction	15.3	25.2	14.4	24.9	-1.0	-0.2	-6%	-1%
Plainsboro Center	Princeton (University)	12.8	18.3	13.3	18.4	0.5	0.2	4%	1%
Plainsboro Center	South Brunswick Ctr.	21.4	36.6	19.9	31.6	-1.5	-5.0	-7%	-14%
Plainsboro Center	Interchange 8A	19.0	31.1	18.0	26.8	-1.0	-4.3	-5%	-14%
Plainsboro Center	Hightstown	25.0	44.9	24.7	42.6	-0.2	-2.3	-1%	-5%
South Brunswick Ctr.	Princeton Junction	49.7	36.3	41.9	36.1	-7.8	-0.2	-16%	-1%
South Brunswick Ctr.	Princeton (University)	48.5	27.3	37.8	26.7	-10.8	-0.6	-22%	-2%
South Brunswick Ctr.	Plainsboro Center	52.5	22.1	43.4	21.8	-9.0	-0.3	-17%	-1%
South Brunswick Ctr.	Interchange 8A	14.6	15.5	13.4	14.7	-1.2	-0.8	-8%	-5%
South Brunswick Ctr.	Hightstown	38.0	45.6	34.0	44.5	-4.0	-1.1	-10%	-2%
Interchange 8A	Princeton Junction	42.1	30.1	35.9	30.6	-6.2	0.5	-15%	2%
Interchange 8A	Princeton (University)	52.4	35.1	49.8	35.4	-2.6	0.3	-5%	1%
Interchange 8A	Plainsboro Center	47.5	20.8	40.6	20.8	-6.9	0.0	-14%	0%
Interchange 8A	South Brunswick Ctr.	20.2	15.4	18.9	14.3	-1.2	-1.1	-6%	-7%
Interchange 8A	Hightstown	30.4	38.0	28.1	37.5	-2.4	-0.4	-8%	-1%
Hightstown	Princeton Junction	43.9	20.2	41.0	20.7	-3.0	0.5	-7%	3%
Hightstown	Princeton (University)	64.3	32.0	60.7	32.5	-3.6	0.5	-6%	2%
Hightstown	Plainsboro Center	68.2	25.4	63.5	25.9	-4.8	0.5	-7%	2%
Hightstown	South Brunswick Ctr.	66.5	35.4	62.3	33.1	-4.3	-2.3	-6%	-7%
Hightstown	Interchange 8A	51.7	27.6	48.8	26.7	-2.9	-0.9	-6%	-3%
					Average:	-3.1	-1.0	-7.7%	-3.1%

5.0 AM & PM Network Volumes

5.1 2001 AM Counted Volumes

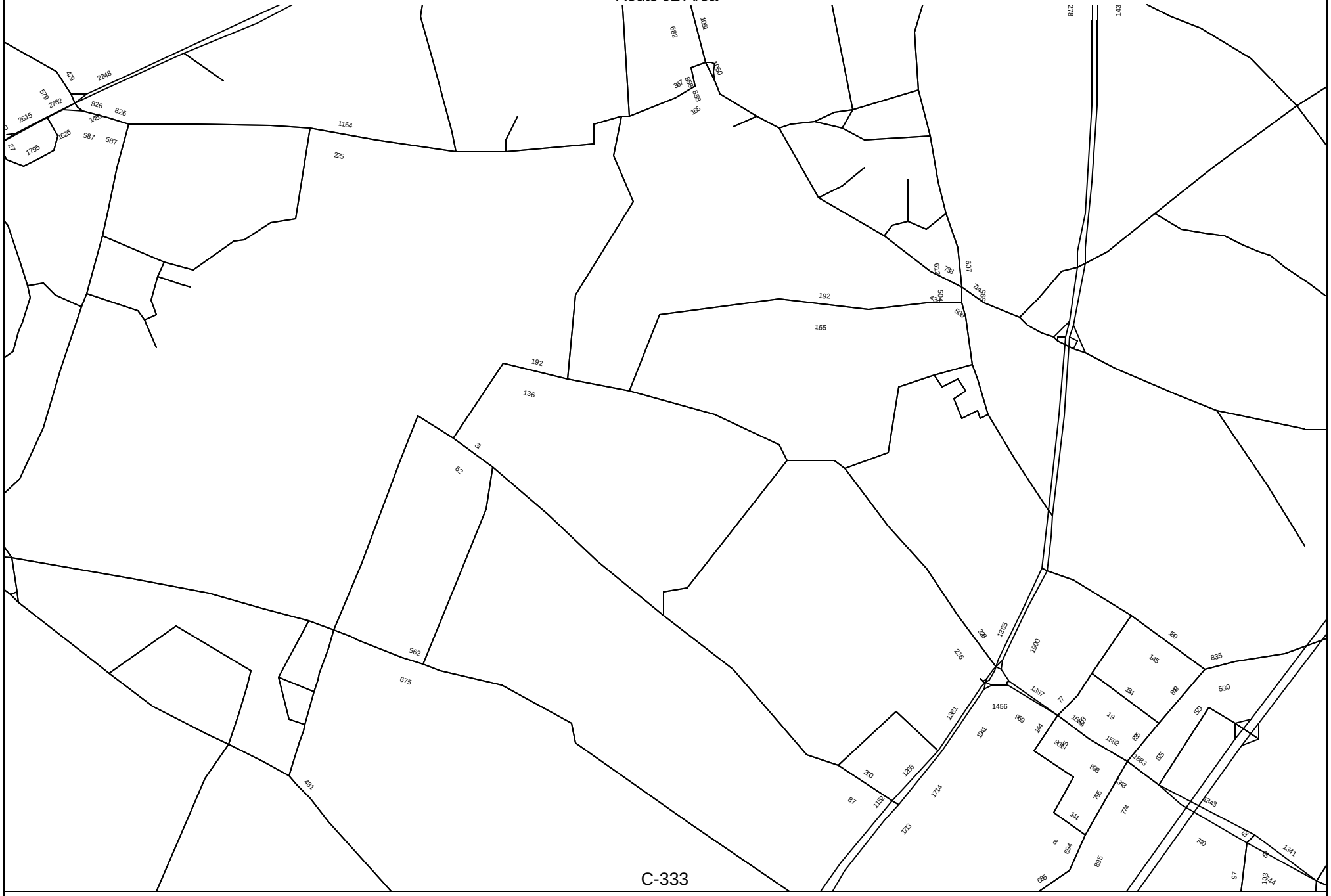
Route 92 Traffic Model
INDEX SHEET for
NETWORK VOLUME PLOTS



LEGEND

1. Route 92 Area
2. NJTPK Interchange 8A Zoom-In
3. West Windsor/Hightstown/ Cranbury
4. Route 1/Nassau Park Blvd
5. West Windsor/Route 1
6. Central West Windsor
7. Princeton Township
8. Princeton Boro
9. Downtown Princeton
10. North Brunswick/Kendall Park Area
11. Kendall Park Zoom-In
12. Jamesburg Area

2001 Existing - AM Counted Volumes
Route 92 Area



C-333

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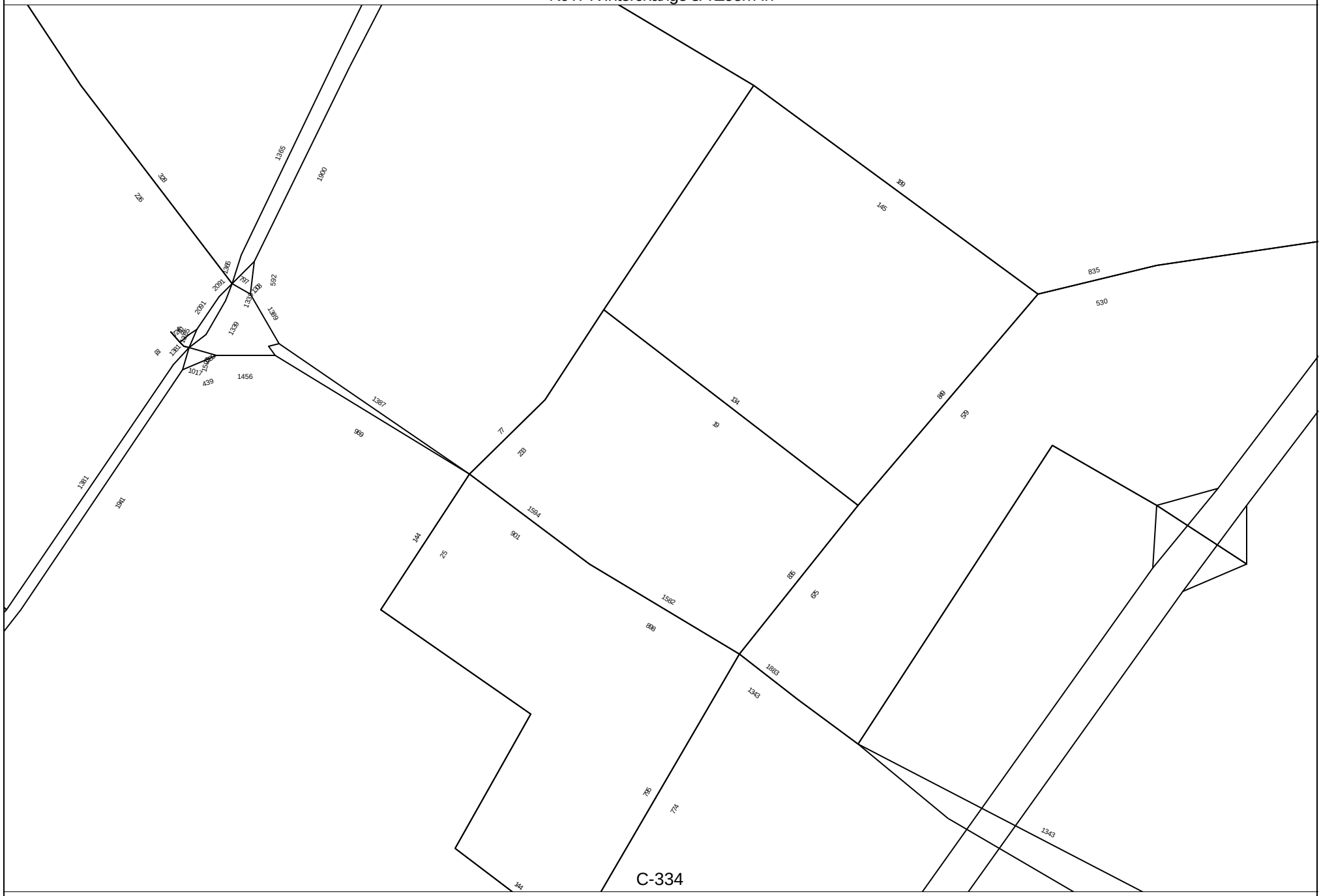
2001 Existing - AM Counted Volumes
NJTPK Interchange 8A Zoom-In



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2001 Existing - AM Counted Volumes
West Windsor / Hightstown / Cranbury

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2001 Existing - AM Counted Volumes
Route 1 / Nassau Park Blvd

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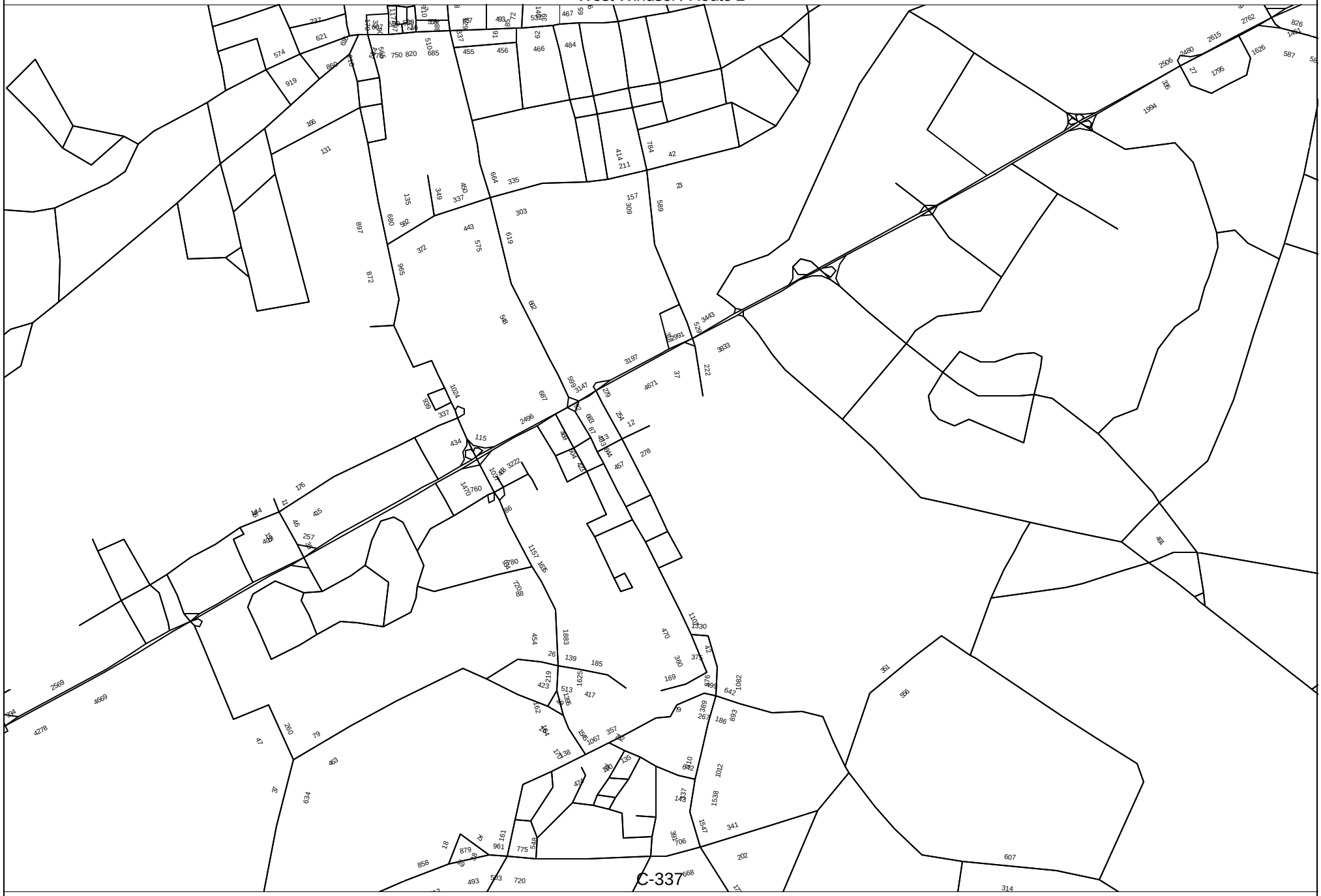
2001 Existing - AM Counted Volumes
West Windsor / Route 1



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2001 Existing - AM Counted Volumes
Central West Windsor

TP+ software by Citilabs 1/30/03 17:06 Licensed to: Garmen Associates

2001 Existing - AM Counted Volumes
Princeton Township

TP+ software by Citilabs 1/30/03 17:06 Licensed to: Garmen Associates

2001 Existing - AM Counted Volumes
Princeton Boro

TP+ software by Citilabs 1/30/03 17:06 Licensed to: Garmen Associates

2001 Existing - AM Counted Volumes
Downtown Princeton

TP+ software by Citilabs 1/30/03 17:06 Licensed to: Garmen Associates

2001 Existing - AM Counted Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/30/03 17:06 Licensed to: Garmen Associates

2001 Existing - AM Counted Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/30/03 17:06 Licensed to: Garmen Associates

2001 Existing - AM Counted Volumes
Jamesburg Area

TP+ software by Citilabs 1/30/03 17:06 Licensed to: Garmen Associates

5.2 2001 PM Counted Volumes

2001 Existing - PM Counted Volumes
Route 92 Area

199
925
781
737
715
918
560
122
289
128
314
40
33
527
526
202
535
246
200
1600
1503
206
638
741
1815
1824
1264
1377
1520
1680
907
747
212
1073
1307
1944
1101
138
39
1682
700
106
1317
935
807
2599
1382
1599
551
614
688
689
1236
103
22
69
685
756
476
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60
1288
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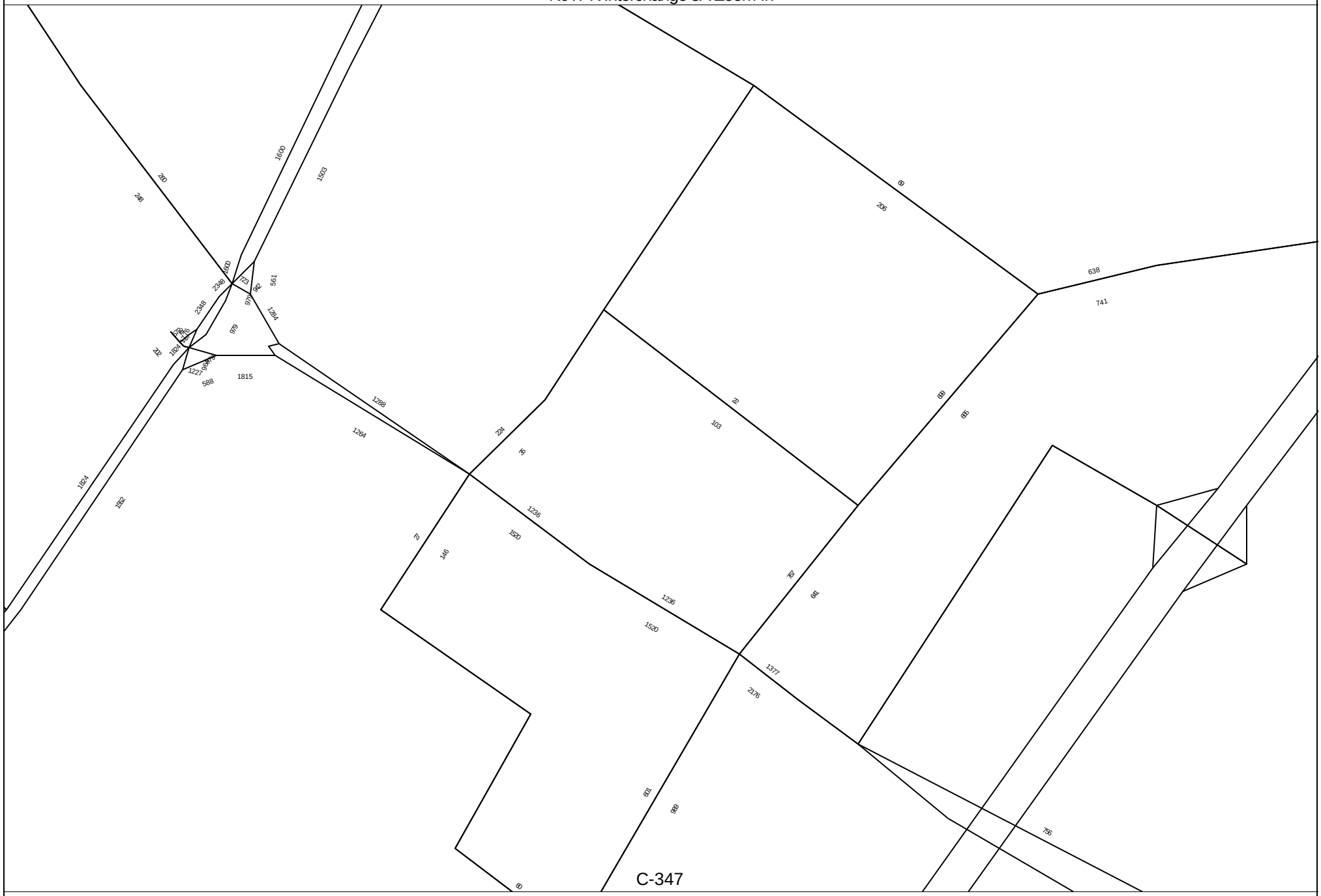
1152
1232
1232
1232

2001 Existing - PM Counted Volumes
NJTPK Interchange 8A Zoom-In



C-347

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2001 Existing - PM Counted Volumes
West Windsor / Hightstown / Cranbury

TP+ software by Citilabs 1/30/03 17:10 Licensed to: Garmen Associates

2001 Existing - PM Counted Volumes
Route 1 / Nassau Park Blvd

TP+ software by Citilabs 1/30/03 17:10 Licensed to: Garmen Associates

2001 Existing - PM Counted Volumes
West Windsor / Route 1

C-350

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2001 Existing - PM Counted Volumes
Central West Windsor

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2001 Existing - PM Counted Volumes
Princeton Township

TP+ software by Citilabs 1/30/03 17:10 Licensed to: Garmen Associates

2001 Existing - PM Counted Volumes
Princeton Boro

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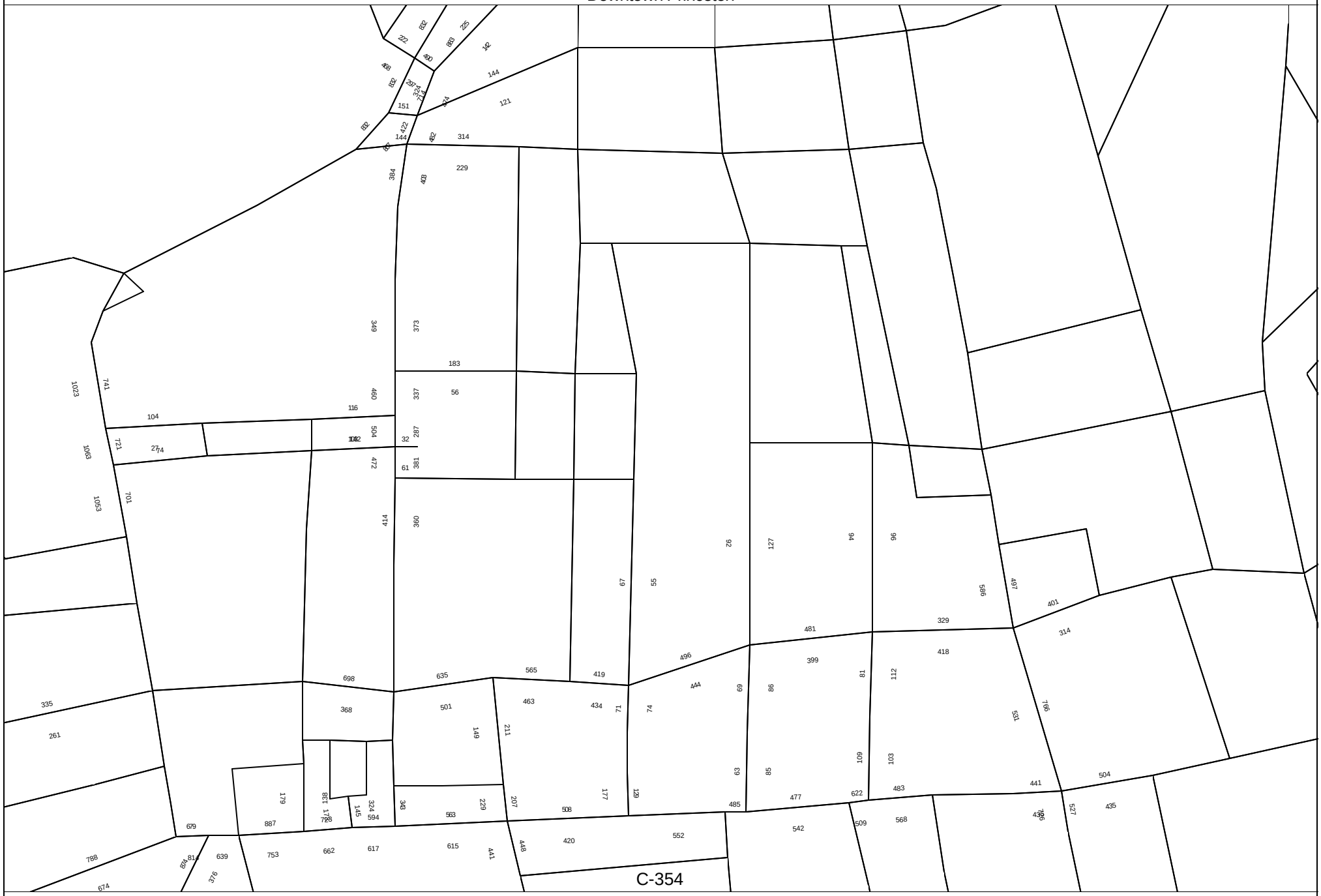
2001 Existing - PM Counted Volumes
Downtown Princeton



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2001 Existing - PM Counted Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/30/03 17:11 Licensed to: Garmen Associates

2001 Existing - PM Counted Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/30/03 17:11 Licensed to: Garmen Associates

2001 Existing - PM Counted Volumes
Jamesburg Area

TP+ software by Citilabs 1/30/03 17:26 Licensed to: Garmen Associates

5.3 2001 AM Modeled Volumes

2001 - AM Modeled Volumes
Route 92 Area

C-359

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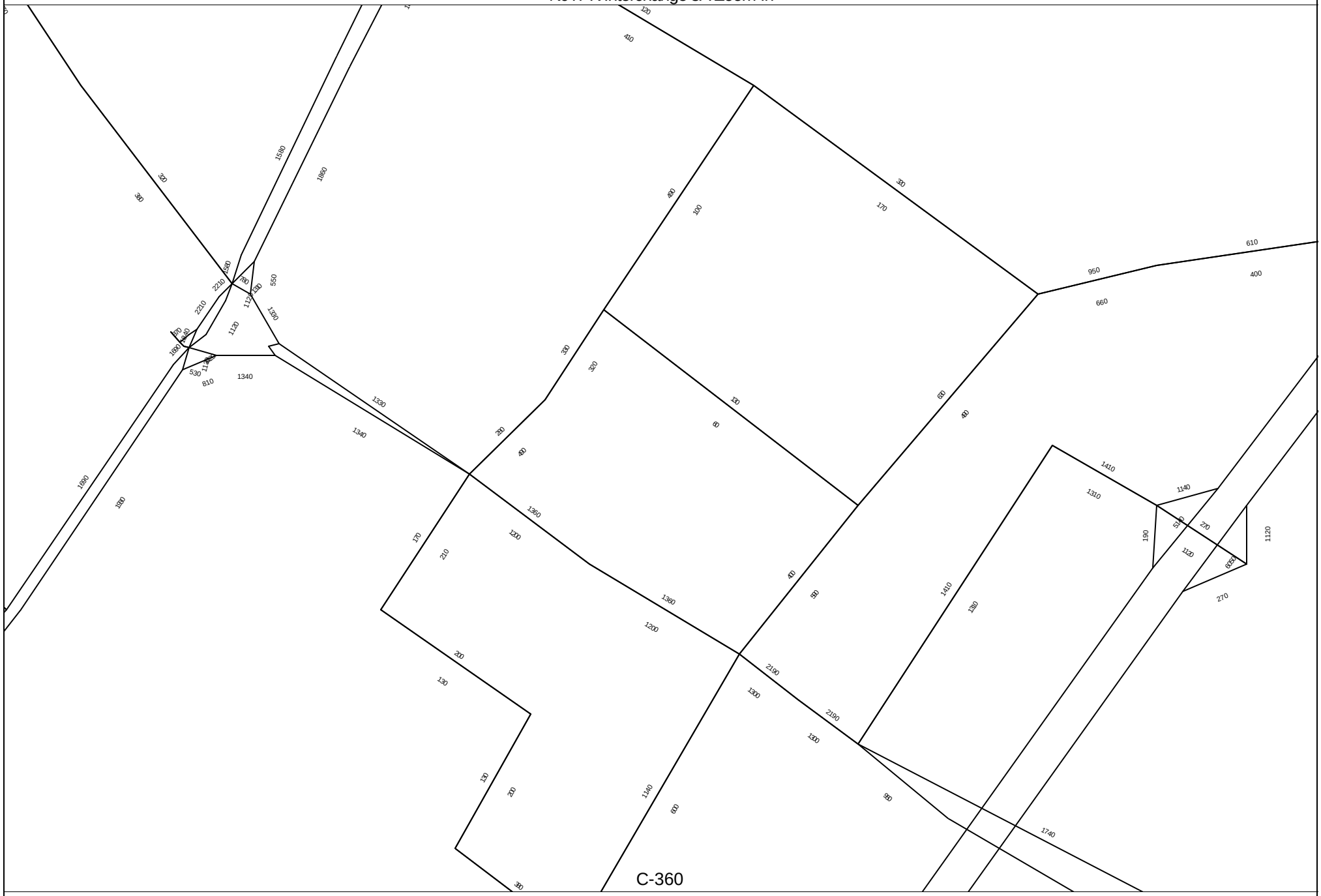
2001 - AM Modeled Volumes
NJTPK Interchange 8A Zoom-In



C-360

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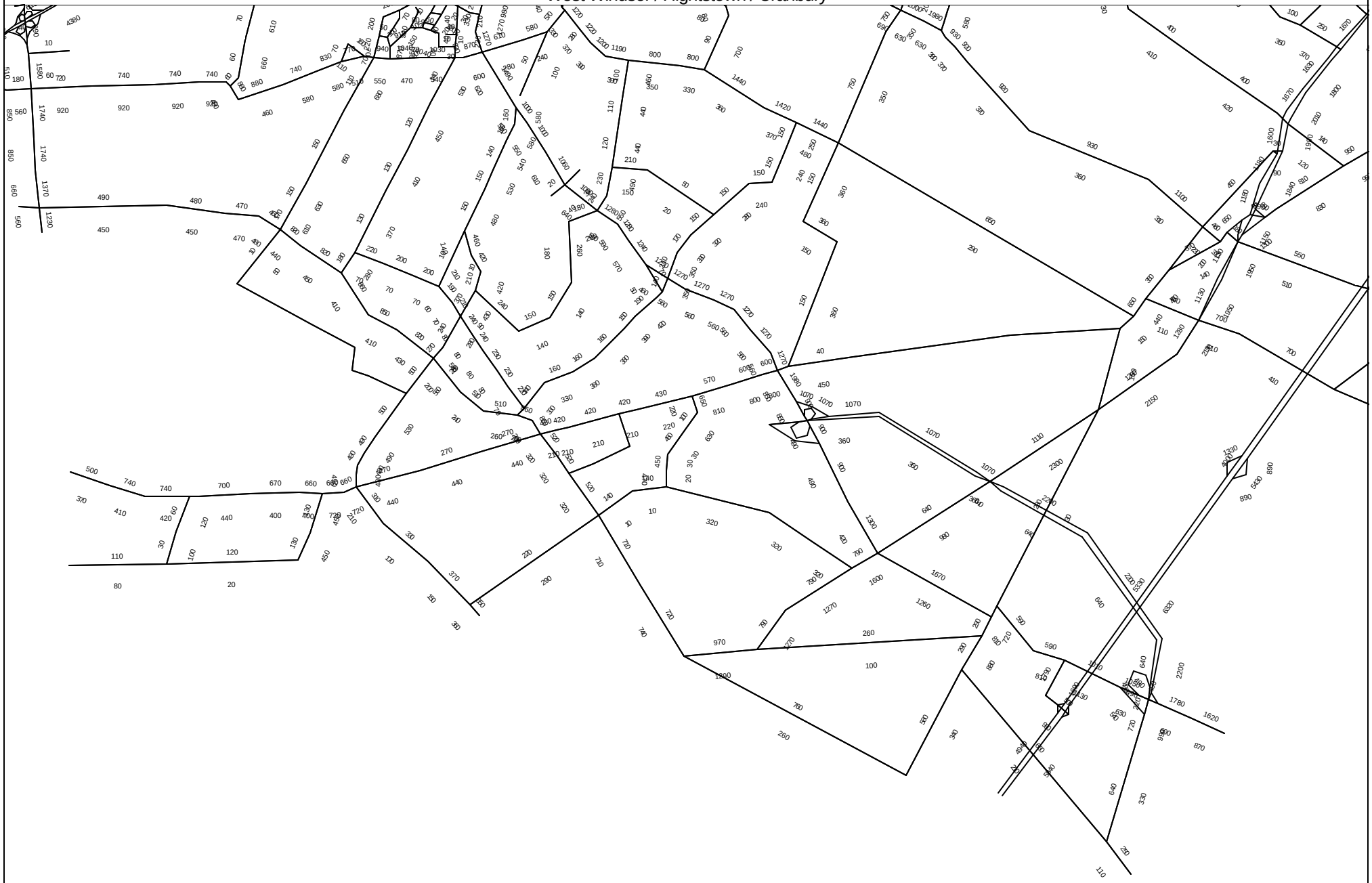
2001 - AM Modeled Volumes
West Windsor / Hightstown / Cranbury



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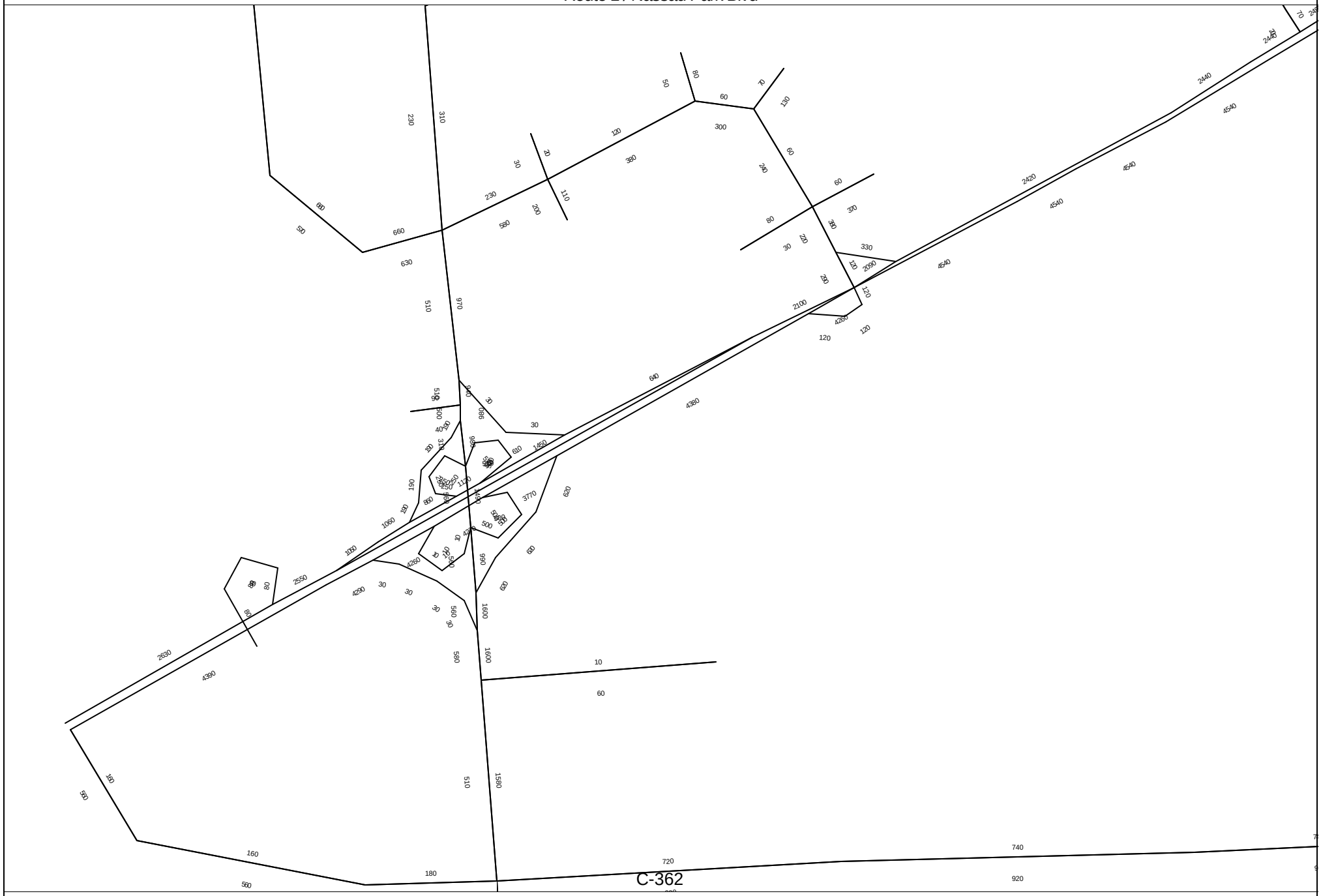
2001 - AM Modeled Volumes
Route 1 / Nassau Park Blvd



TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

2001 - AM Modeled Volumes
West Windsor / Route 1

TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

2001 - AM Modeled Volumes
Central West Windsor

TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

2001 - AM Modeled Volumes
Princeton Township

TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

2001 - AM Modeled Volumes
Princeton Boro

TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

2001 - AM Modeled Volumes
Downtown Princeton

TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

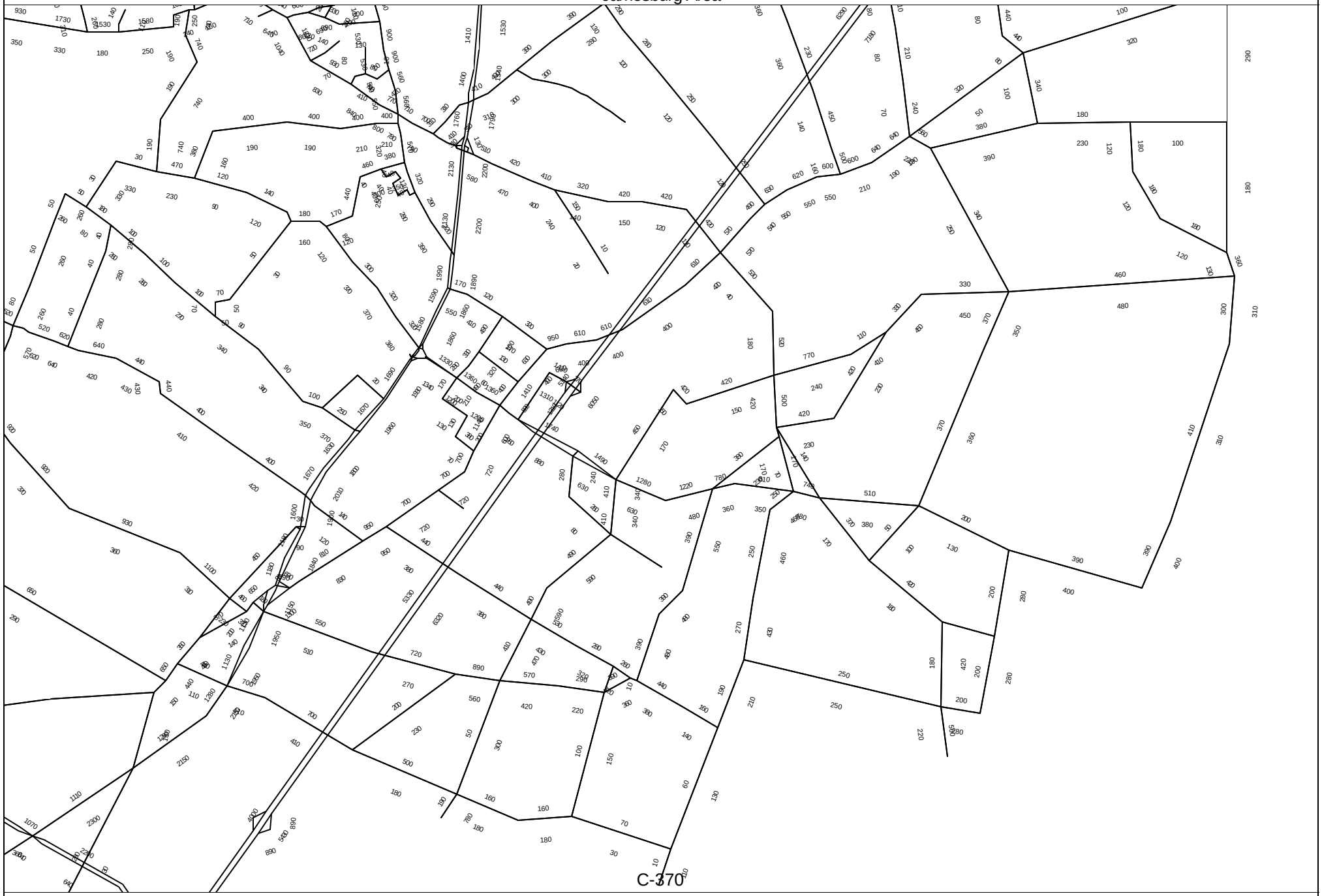
2001 - AM Modeled Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

2001 - AM Modeled Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

2001 - AM Modeled Volumes
Jamesburg Area



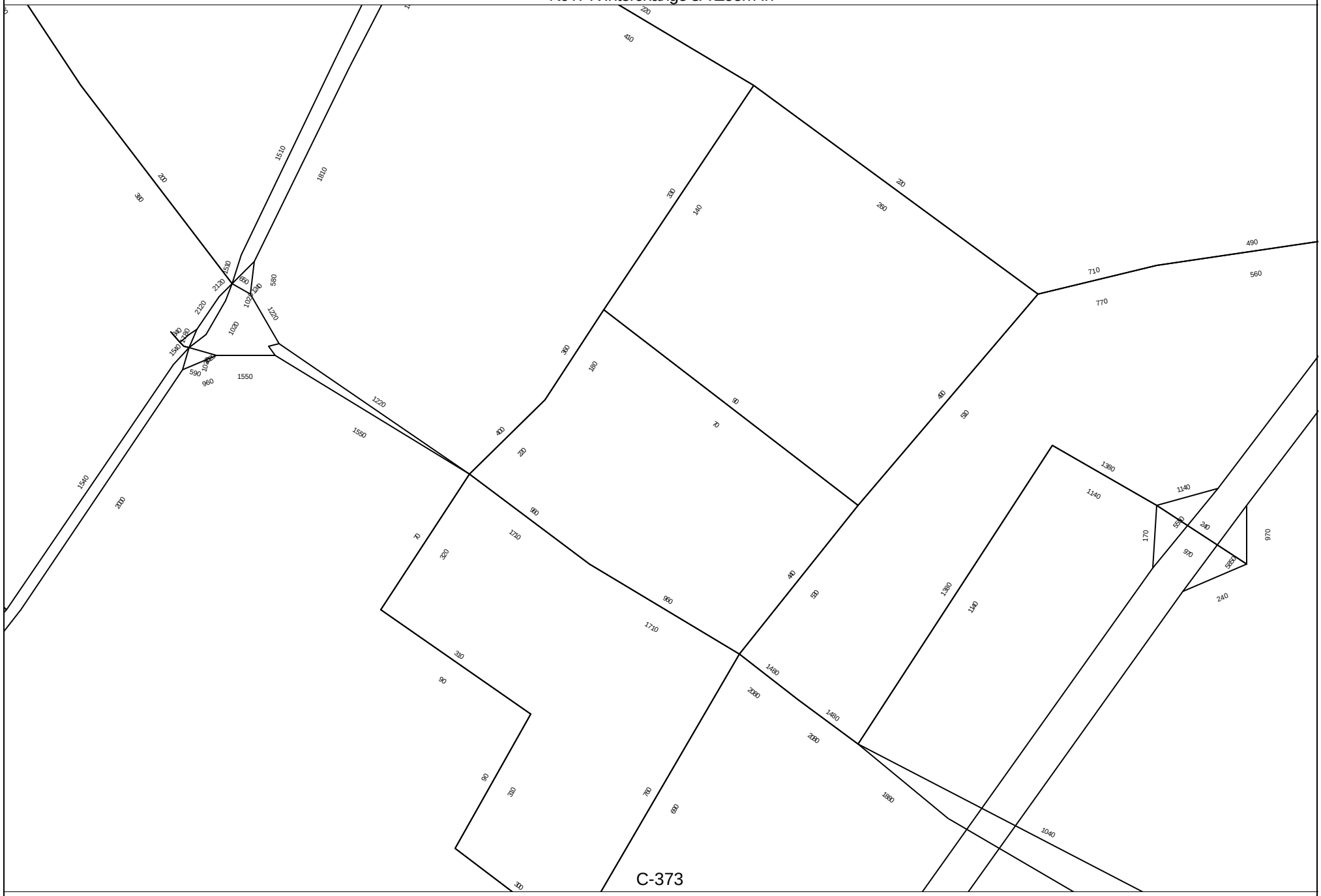
TP+ software by Citilabs 1/31/03 09:25 Licensed to: Garmen Associates

5.4 2001 PM Modeled Volumes

2001 - PM Modeled Volumes
Route 92 Area

TP+ software by Citilabs 1/31/03 09:22 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
NJTPK Interchange 8A Zoom-In



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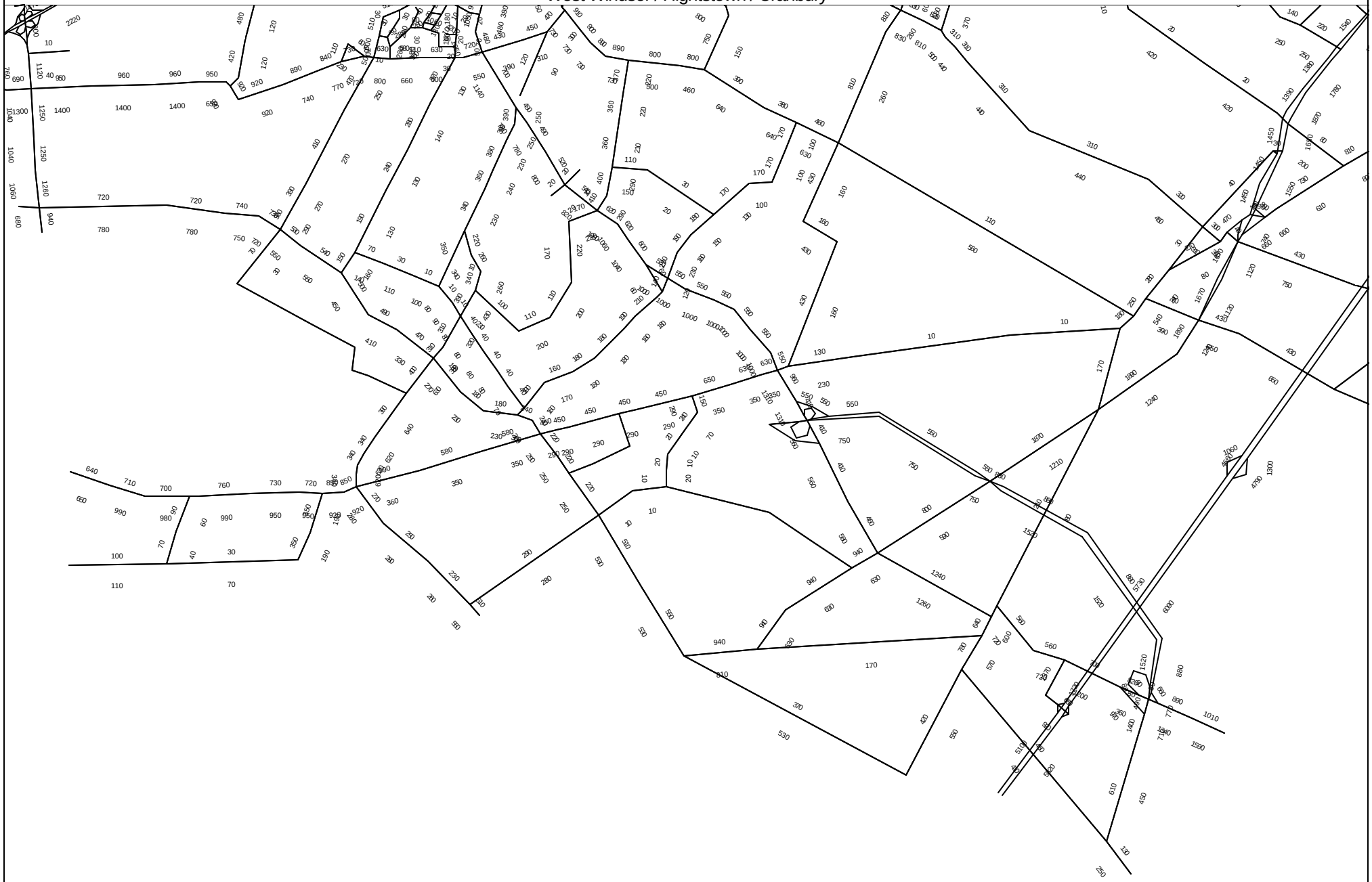
2001 - PM Modeled Volumes
West Windsor / Hightstown / Cranbury



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2001 - PM Modeled Volumes
Route 1 / Nassau Park Blvd

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
West Windsor / Route 1

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
Central West Windsor

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
Princeton Township

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
Princeton Boro

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
Downtown Princeton

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

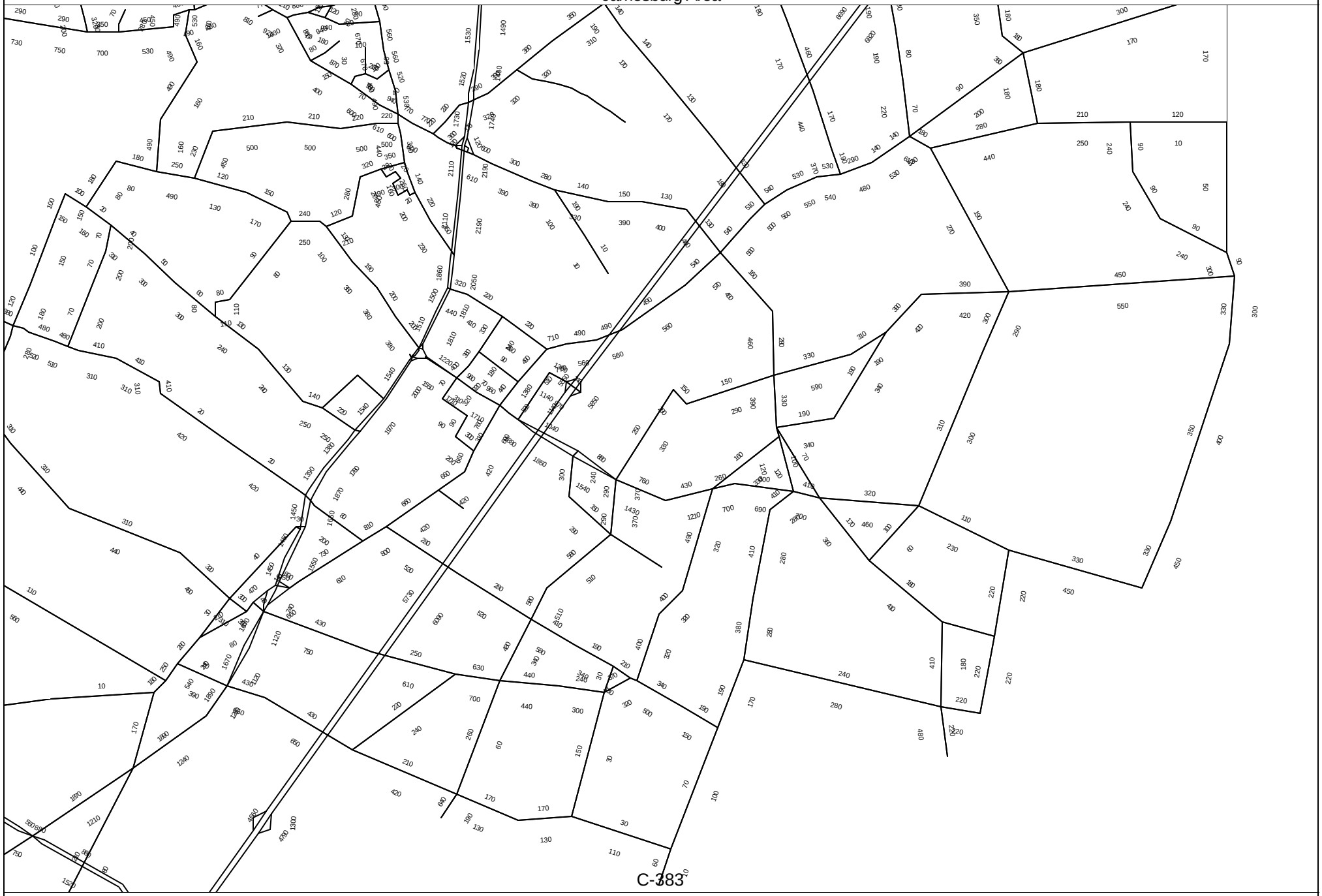
2001 - PM Modeled Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/31/03 09:23 Licensed to: Garmen Associates

2001 - PM Modeled Volumes
Jamesburg Area



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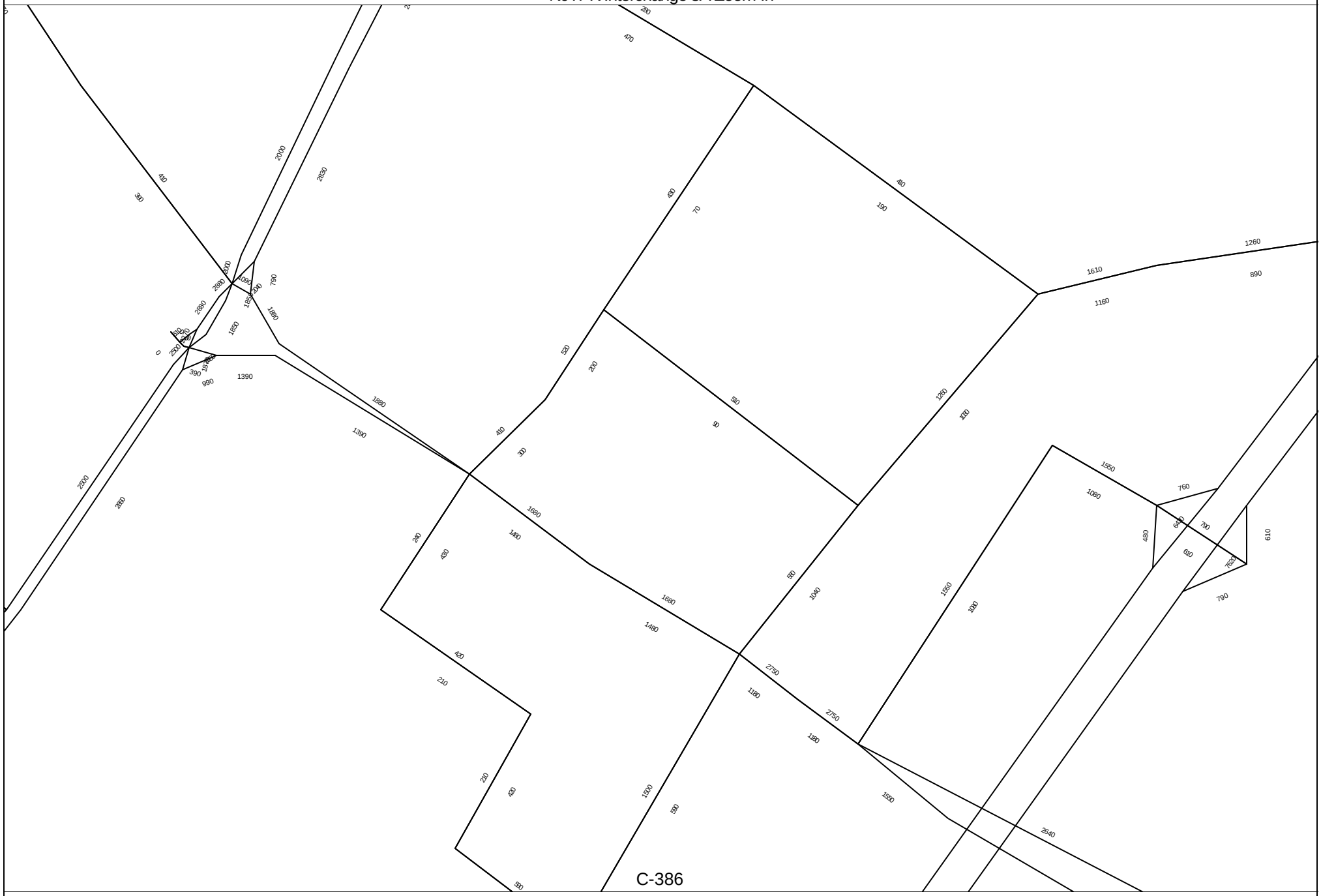
5.5 2028 AM No Build Volumes

2028 No Build - AM Projected Volumes
Route 92 Area

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
NJTPK Interchange 8A Zoom-In



C-386

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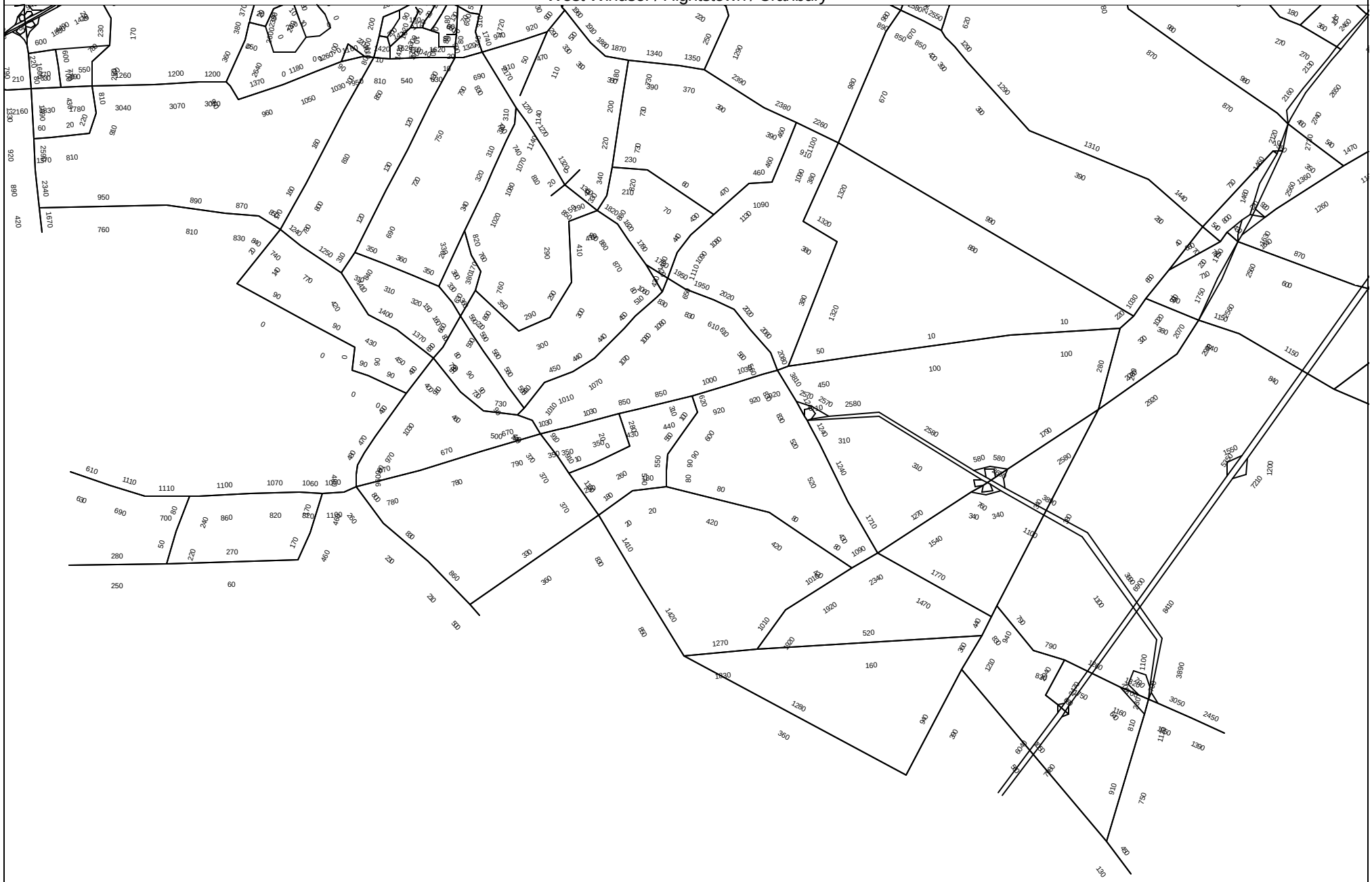
2028 No Build - AM Projected Volumes
West Windsor / Hightstown / Cranbury



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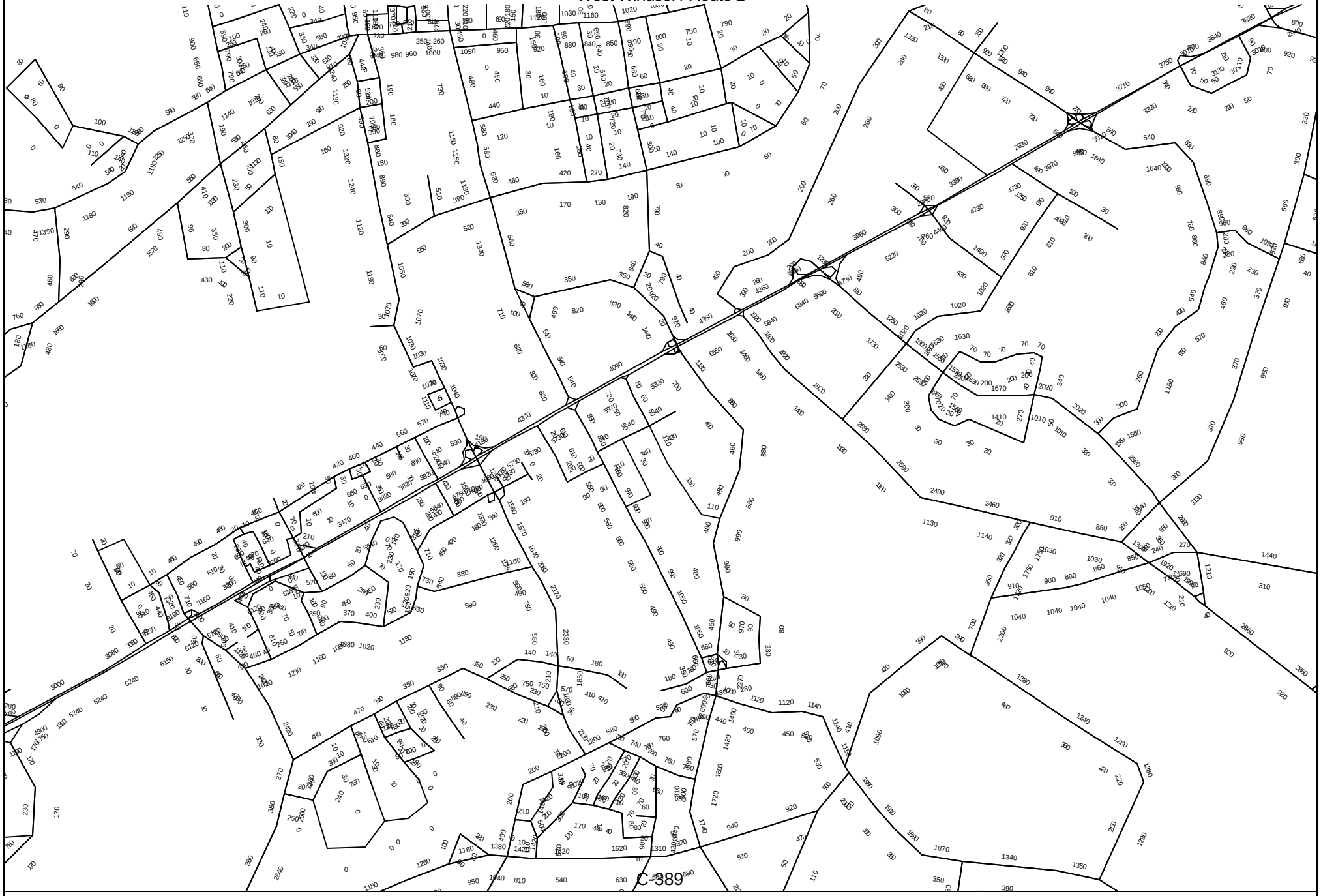
2028 No Build - AM Projected Volumes
Route 1 / Nassau Park Blvd

C-388

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
West Windsor / Route 1



TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
Central West Windsor

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
Princeton Township

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
Princeton Boro

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
Downtown Princeton

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

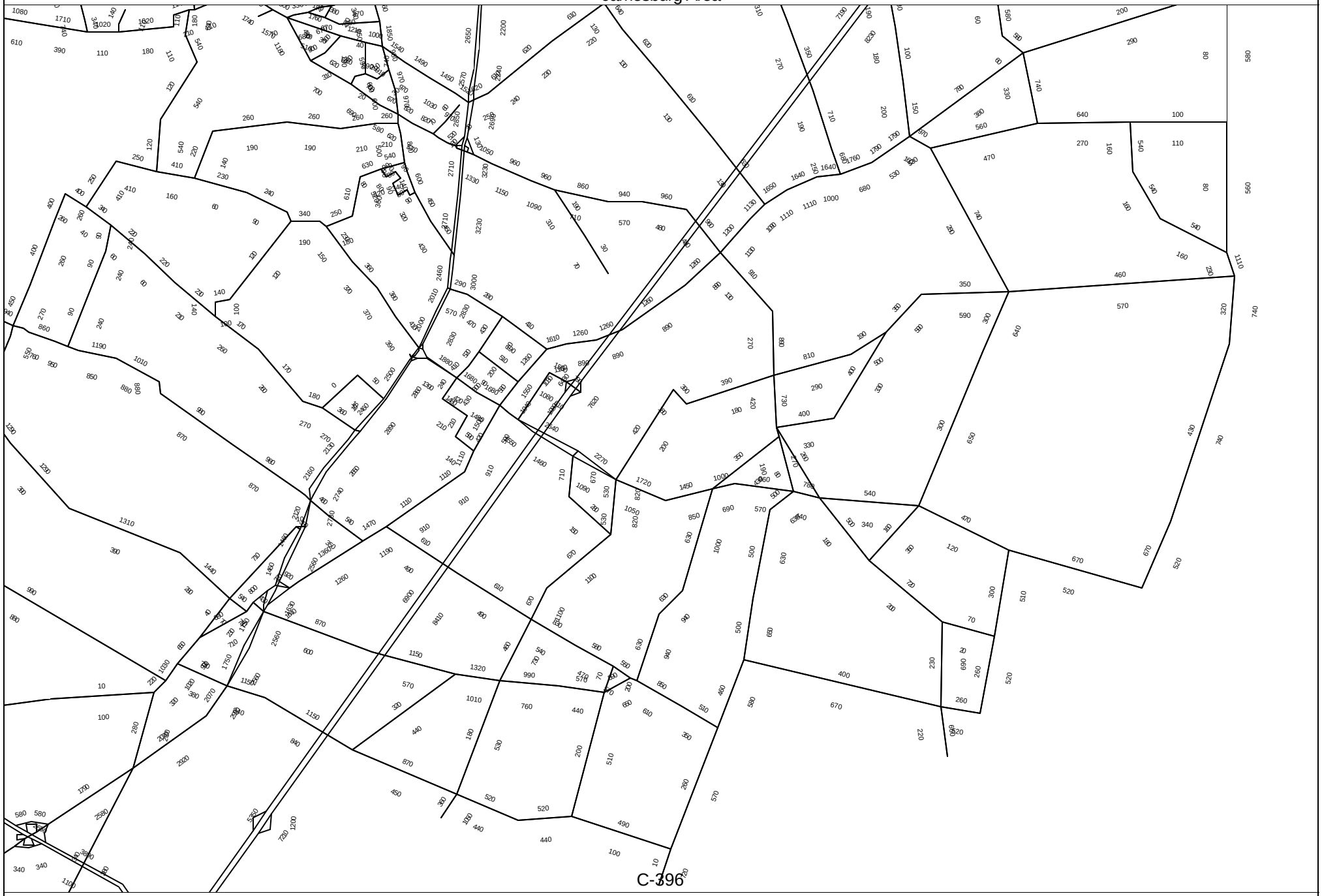
2028 No Build - AM Projected Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/30/03 15:33 Licensed to: Garmen Associates

2028 No Build - AM Projected Volumes
Jamesburg Area



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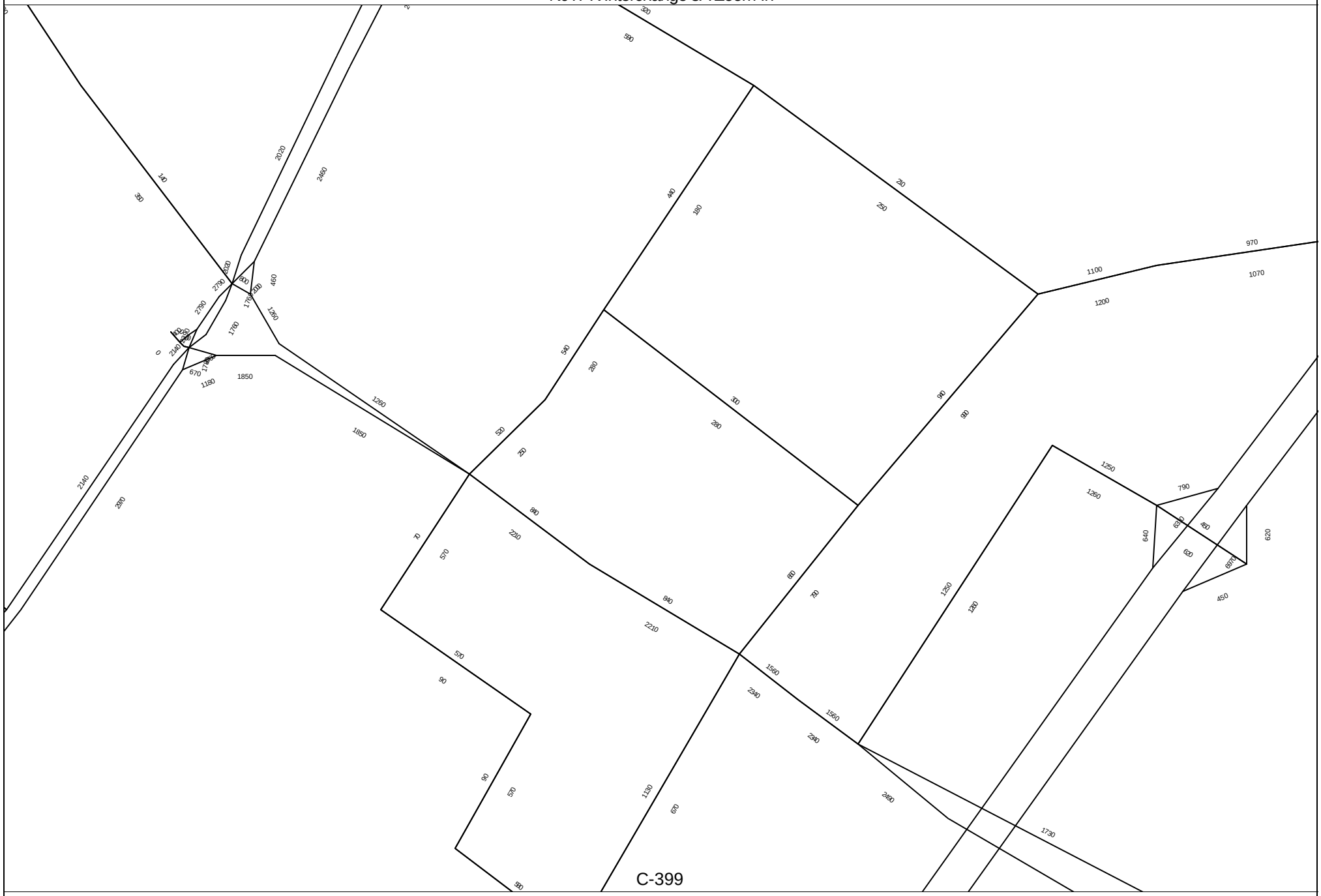
5.6 2028 PM No Build Volumes

2028 No Build - PM Projected Volumes
Route 92 Area

TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

2028 No Build - PM Projected Volumes
NJTPK Interchange 8A Zoom-In



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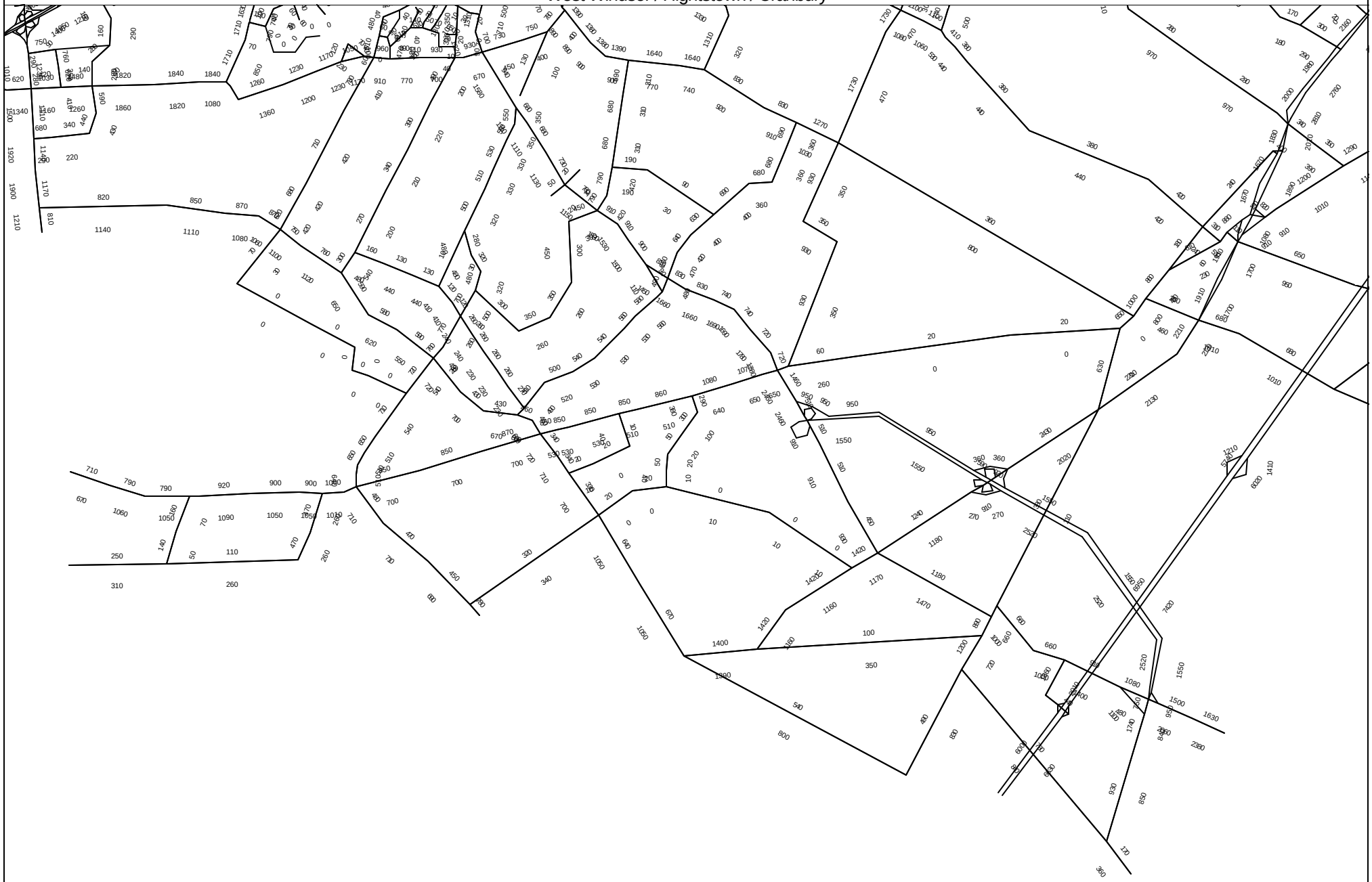
2028 No Build - PM Projected Volumes
West Windsor / Hightstown / Cranbury



C-400

2028 No Build - PM Projected Volumes
Route 1 / Nassau Park Blvd

C-401

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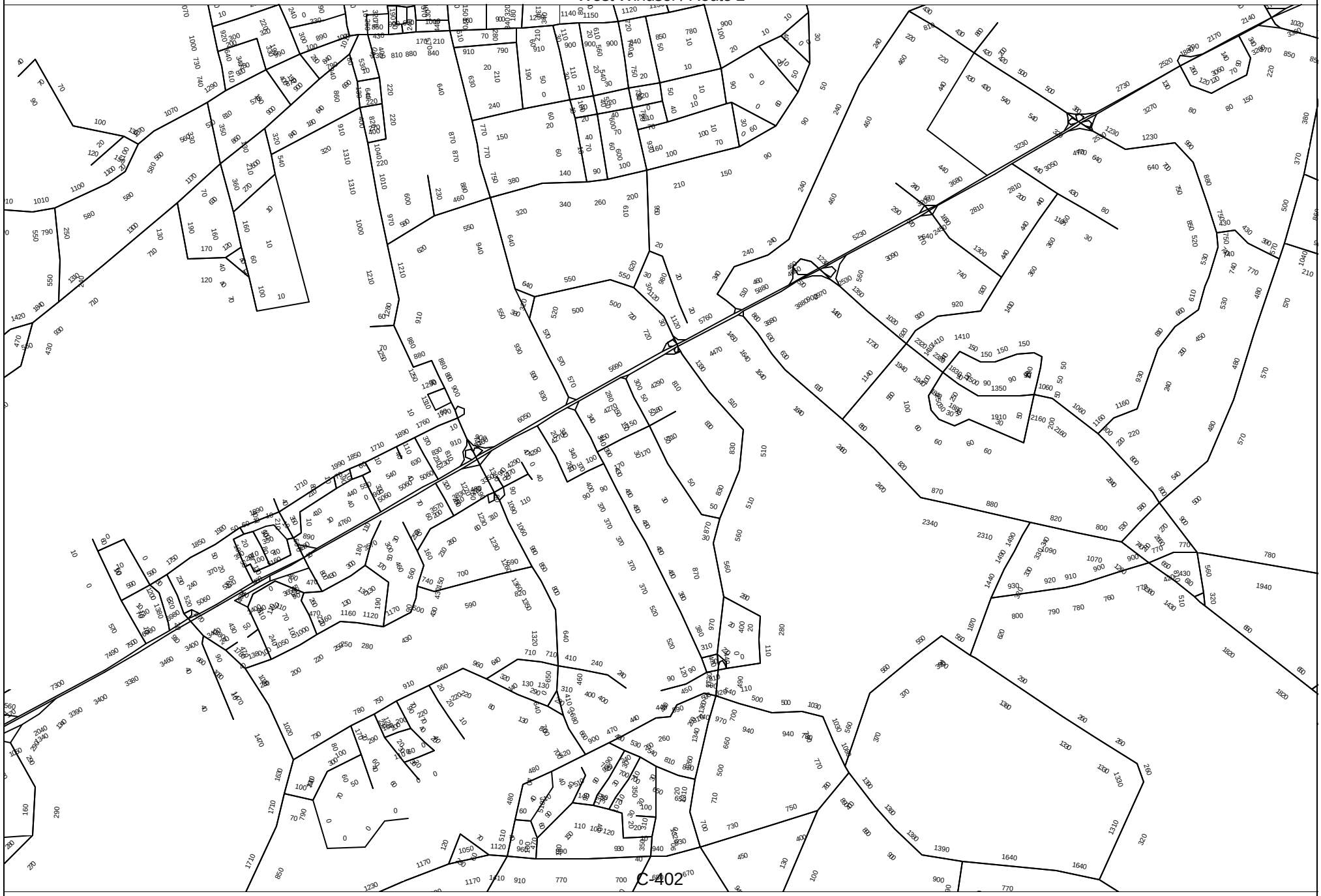
2028 No Build - PM Projected Volumes
West Windsor / Route 1



TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

2028 No Build - PM Projected Volumes
Central West Windsor

TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

2028 No Build - PM Projected Volumes
Princeton Township

TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

2028 No Build - PM Projected Volumes
Princeton Boro

TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

2028 No Build - PM Projected Volumes
Downtown Princeton

TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

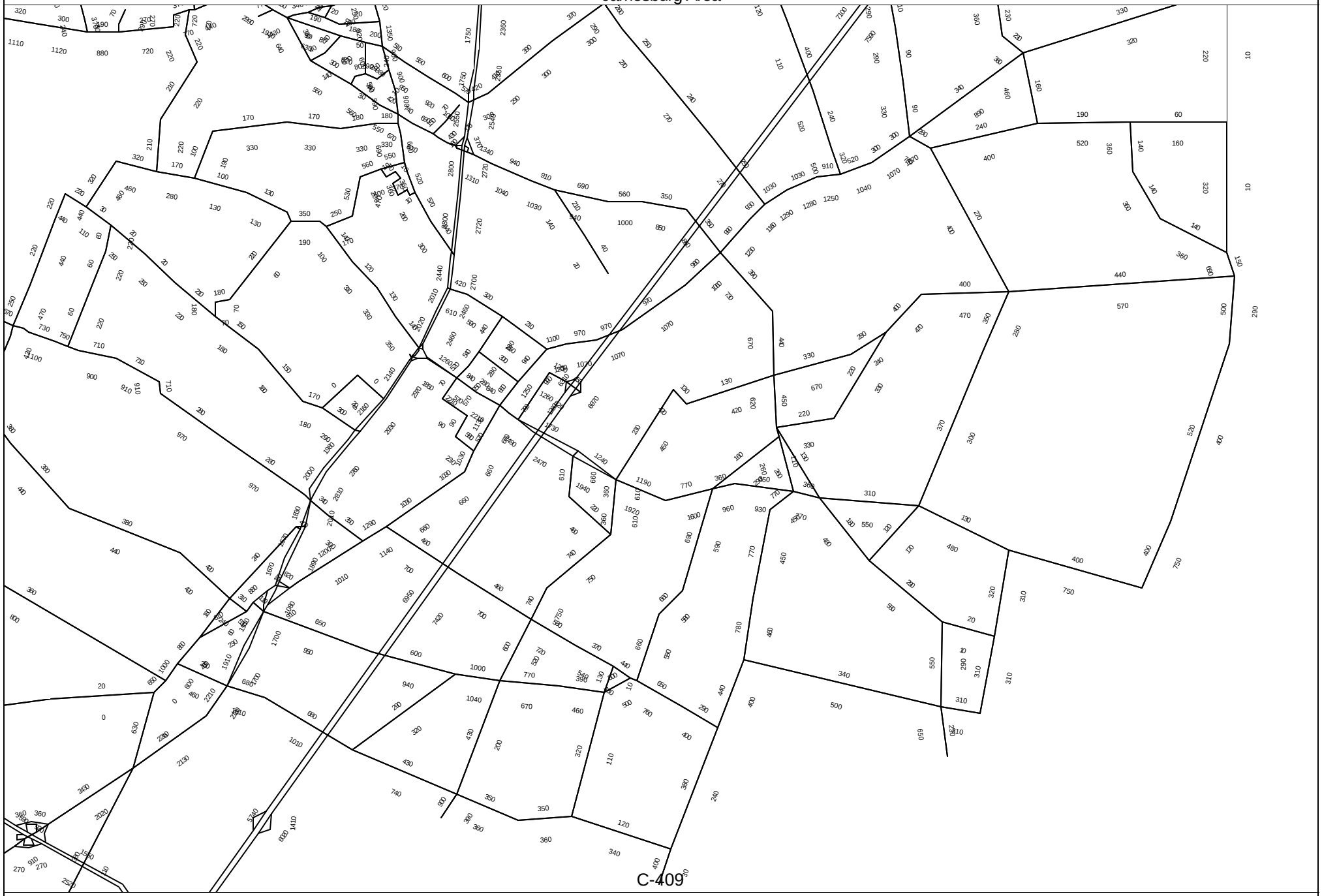
2028 No Build - PM Projected Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

2028 No Build - PM Projected Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

2028 No Build - PM Projected Volumes
Jamesburg Area



TP+ software by Citilabs 1/30/03 15:31 Licensed to: Garmen Associates

5.7 2028 AM Build Route 92 Volumes

2028 Build Route 92 - AM Projected Volumes

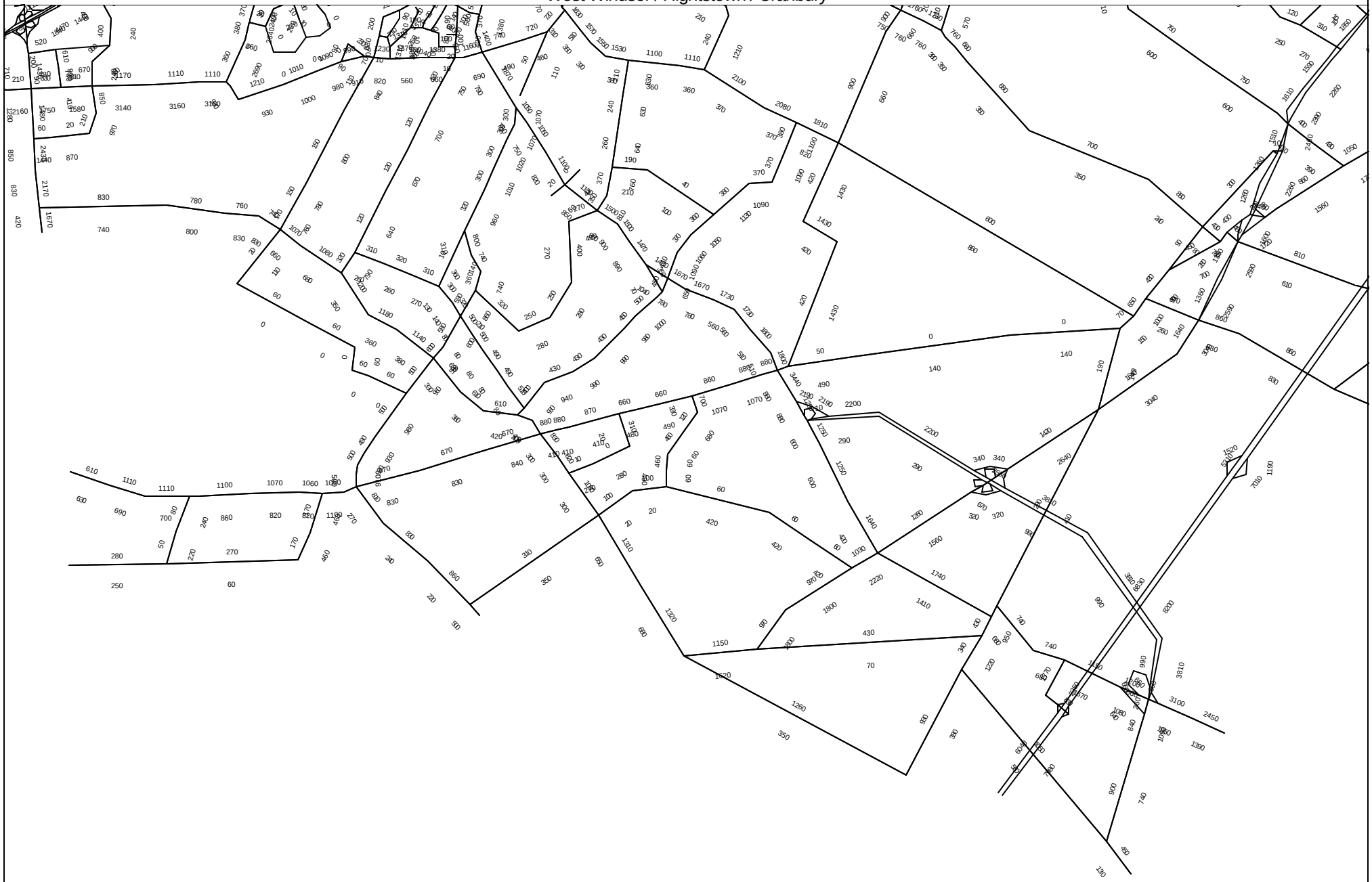
Route 92 Area

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
NJTPK Interchange 8A Zoom-In

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
West Windsor / Hightstown / Cranbury



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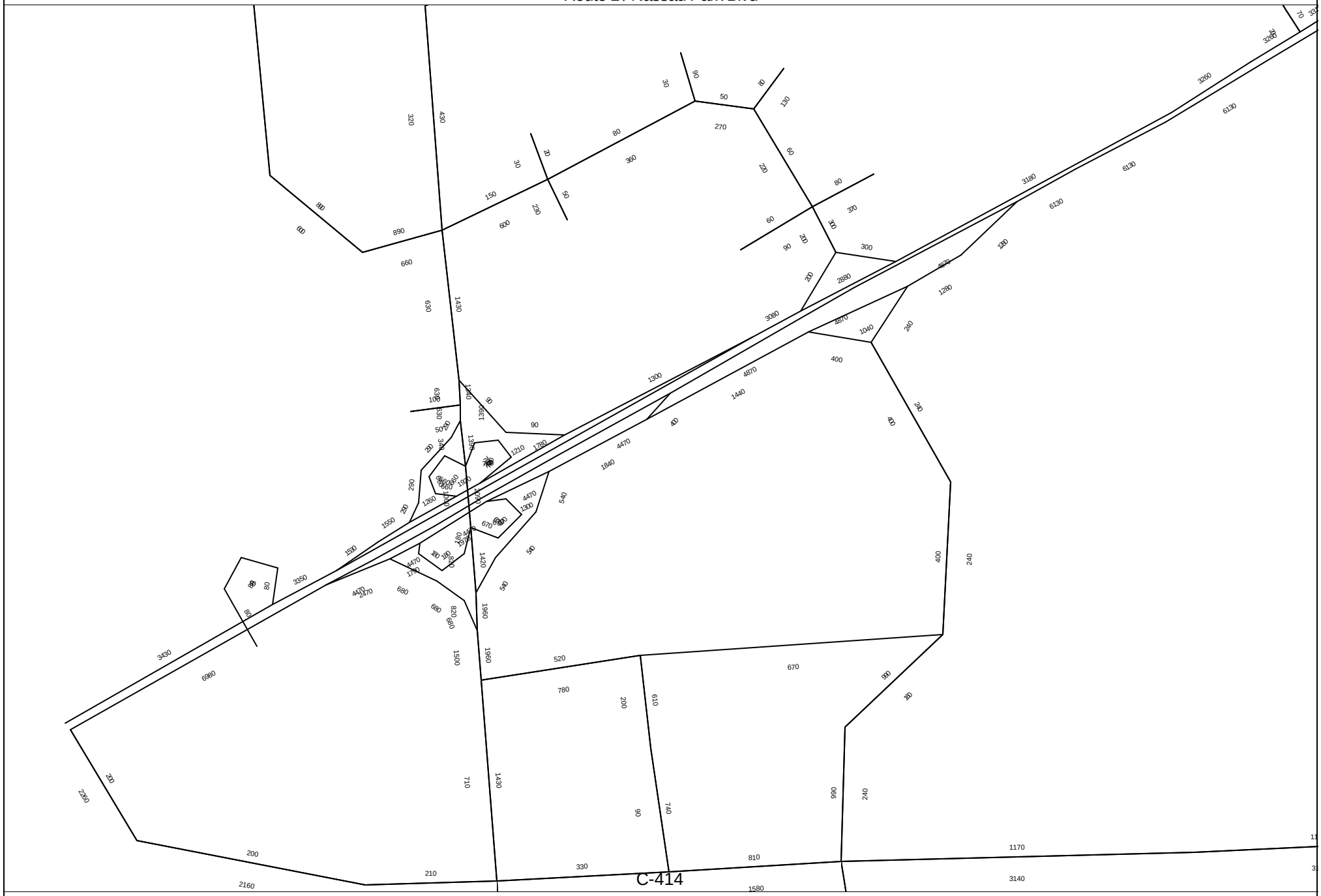
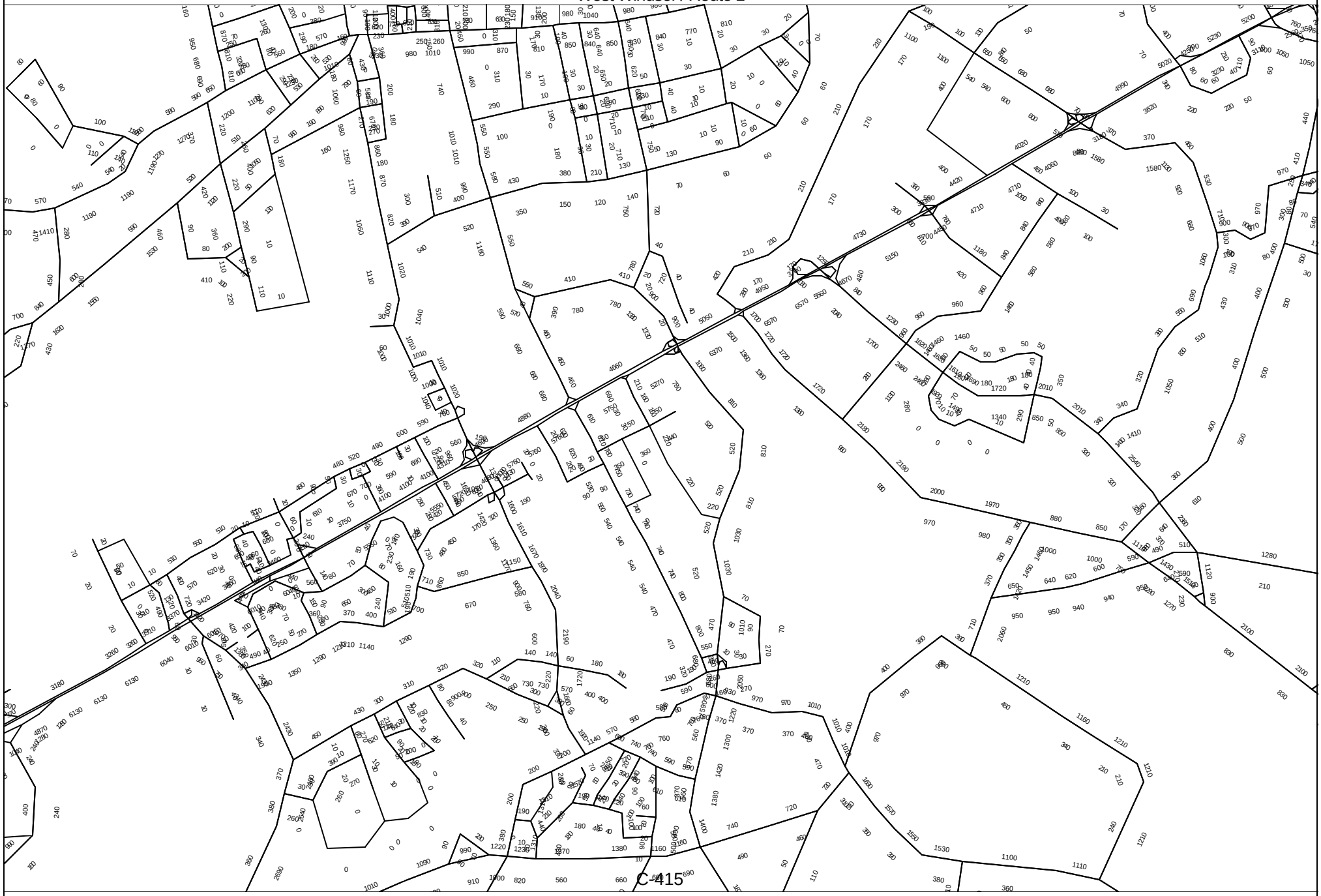
2028 Build Route 92 - AM Projected Volumes
Route 1 / Nassau Park Blvd



TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
West Windsor / Route 1



TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
Central West Windsor

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
Princeton Township

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
Princeton Boro

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
Downtown Princeton

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

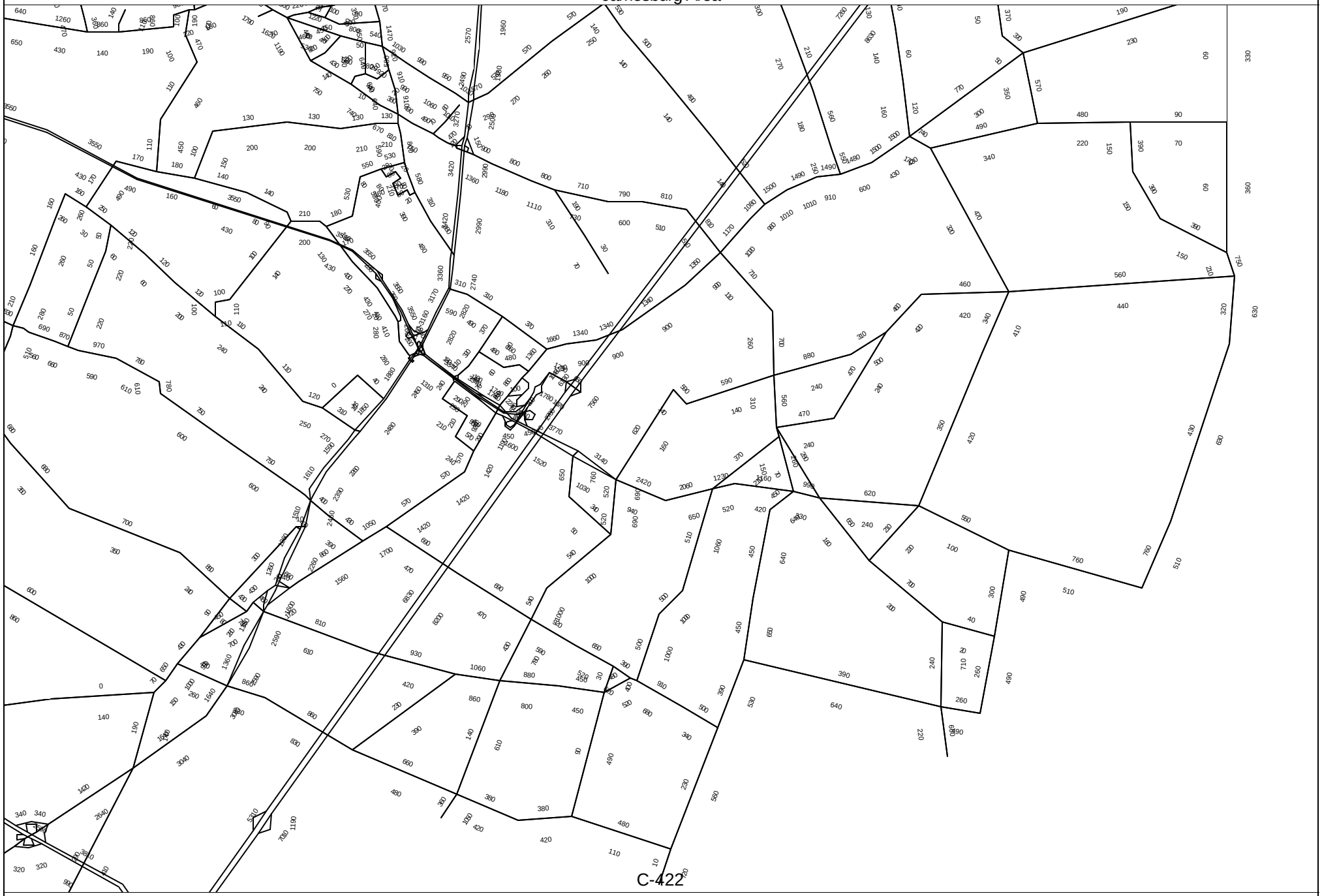
2028 Build Route 92 - AM Projected Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

2028 Build Route 92 - AM Projected Volumes
Jamesburg Area



TP+ software by Citilabs 1/30/03 14:36 Licensed to: Garmen Associates

5.8 2028 PM Build Route 92 Volumes

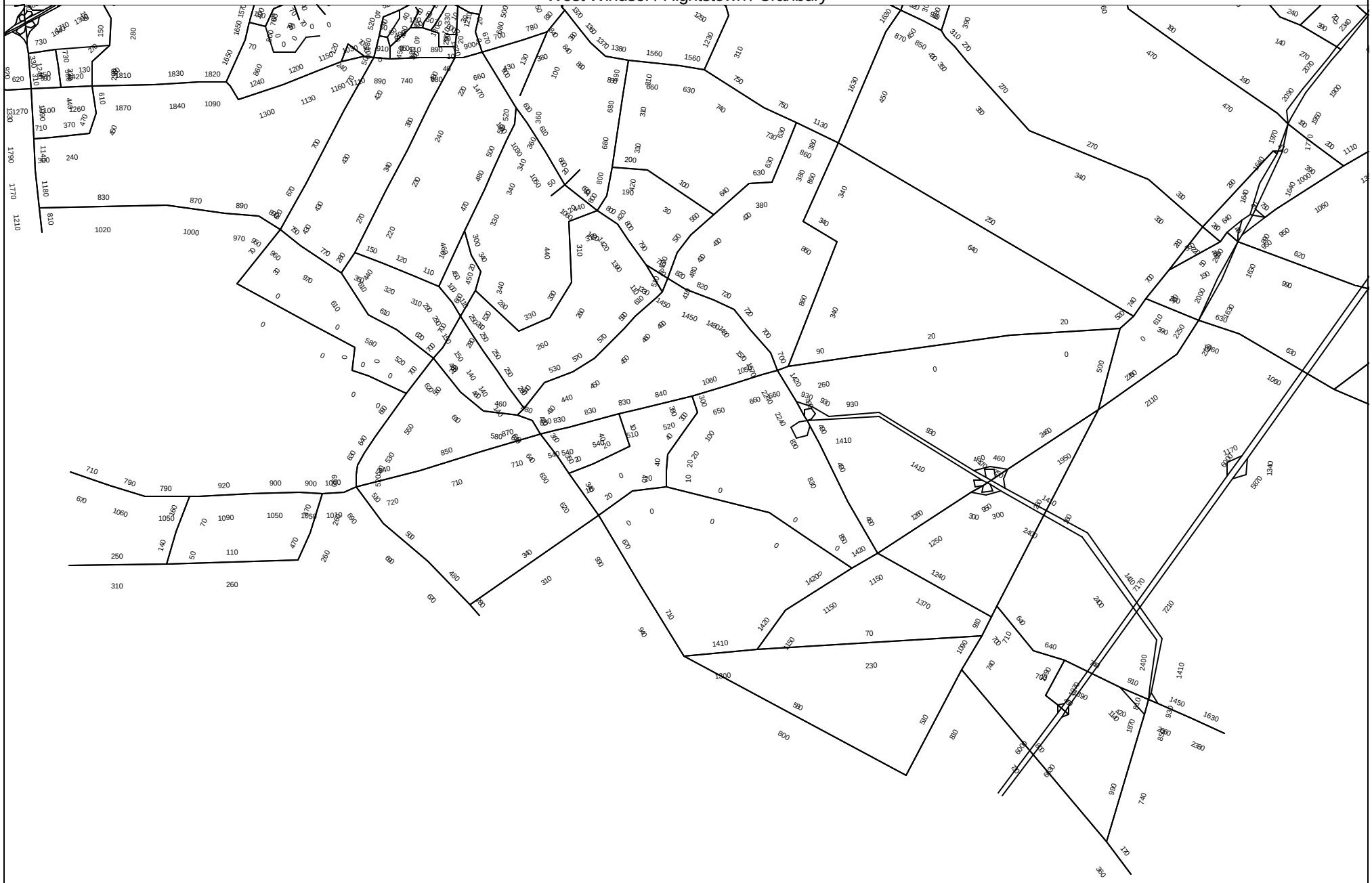
2028 Build Route 92 - PM Projected Volumes
Route 92 Area

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
NJTPK Interchange 8A Zoom-In

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
West Windsor / Hightstown / Cranbury

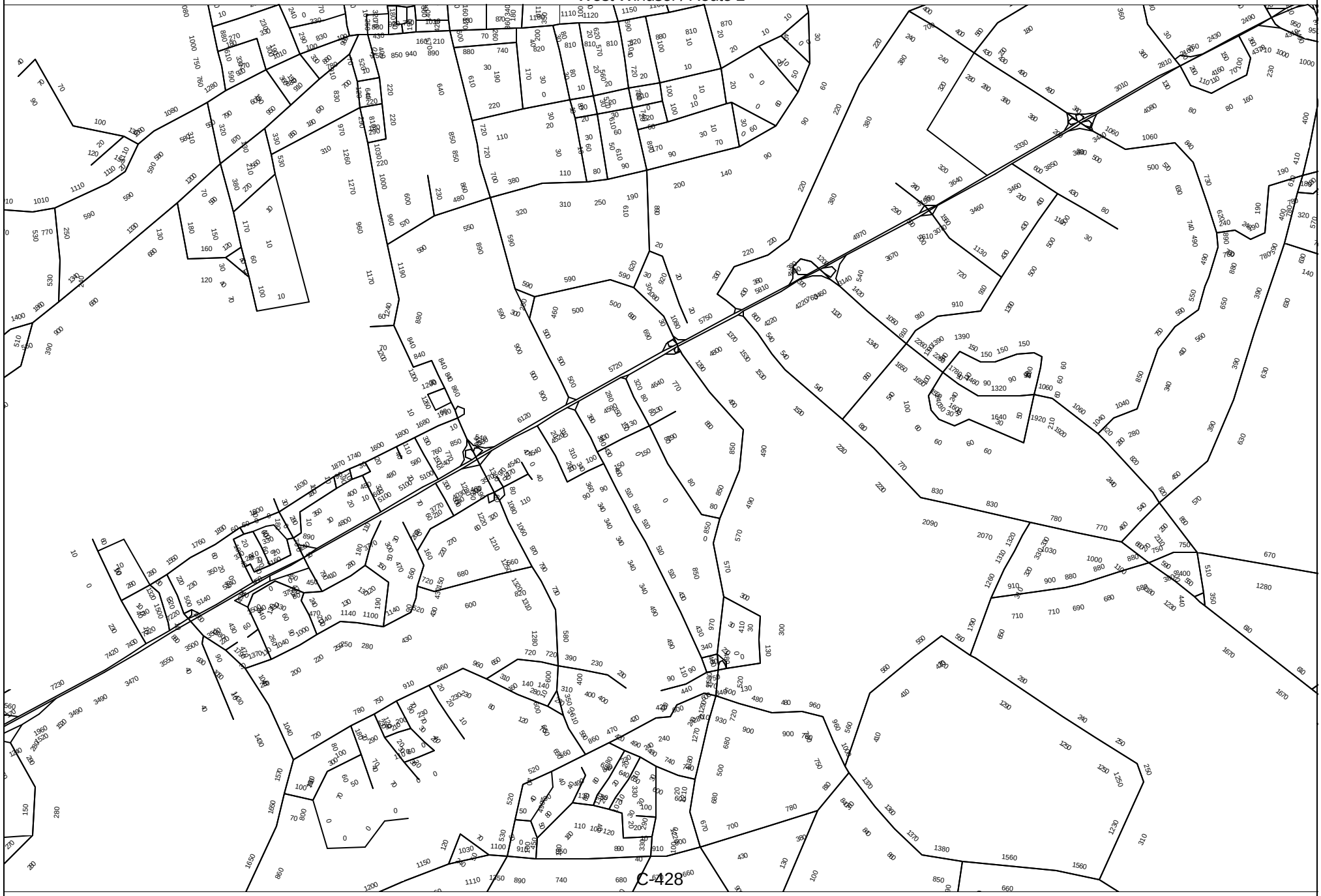


TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
Route 1 / Nassau Park Blvd

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
West Windsor / Route 1



TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
Central West Windsor

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
Princeton Township

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
Princeton Boro

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
Downtown Princeton

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

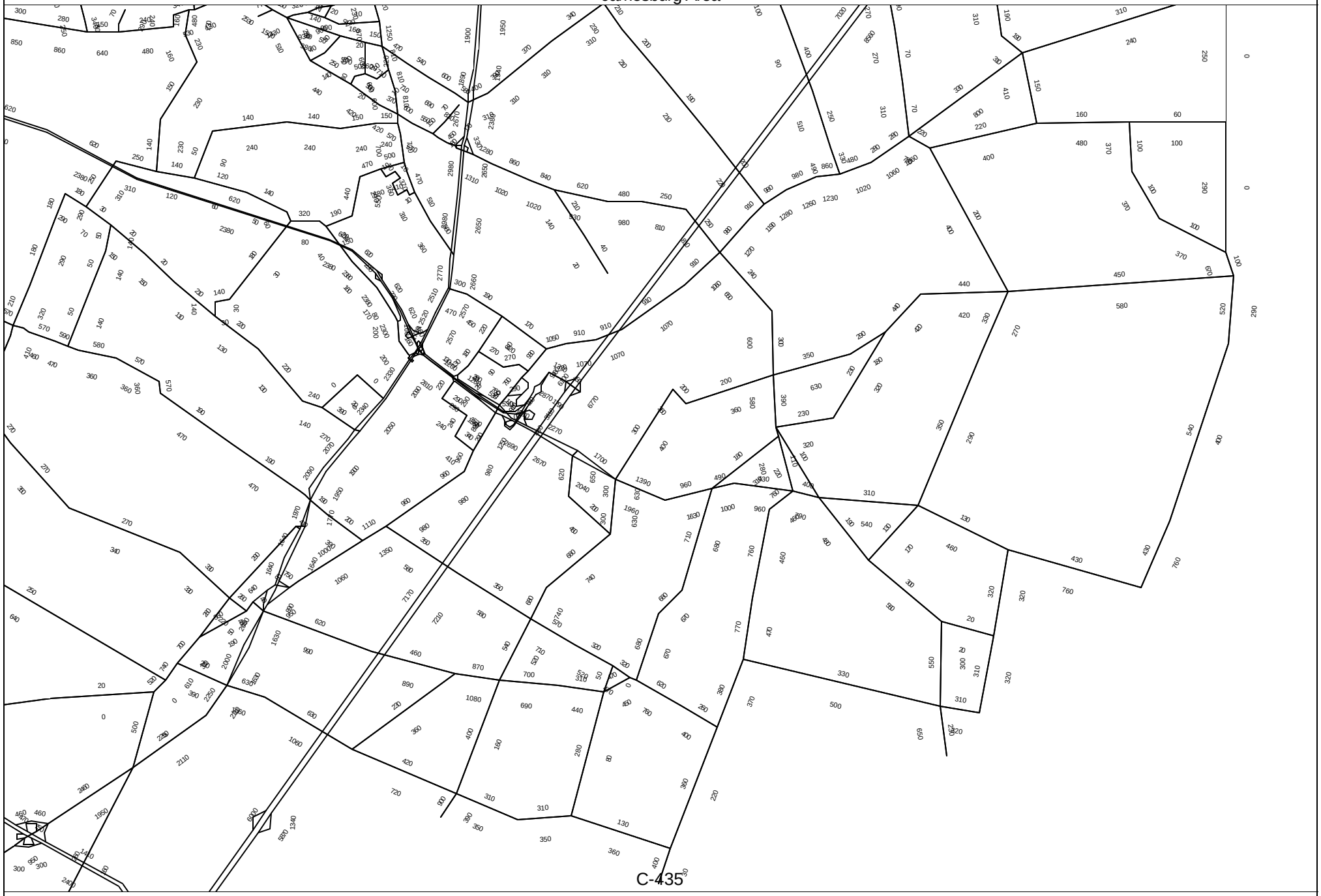
2028 Build Route 92 - PM Projected Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

2028 Build Route 92 - PM Projected Volumes
Jamesburg Area



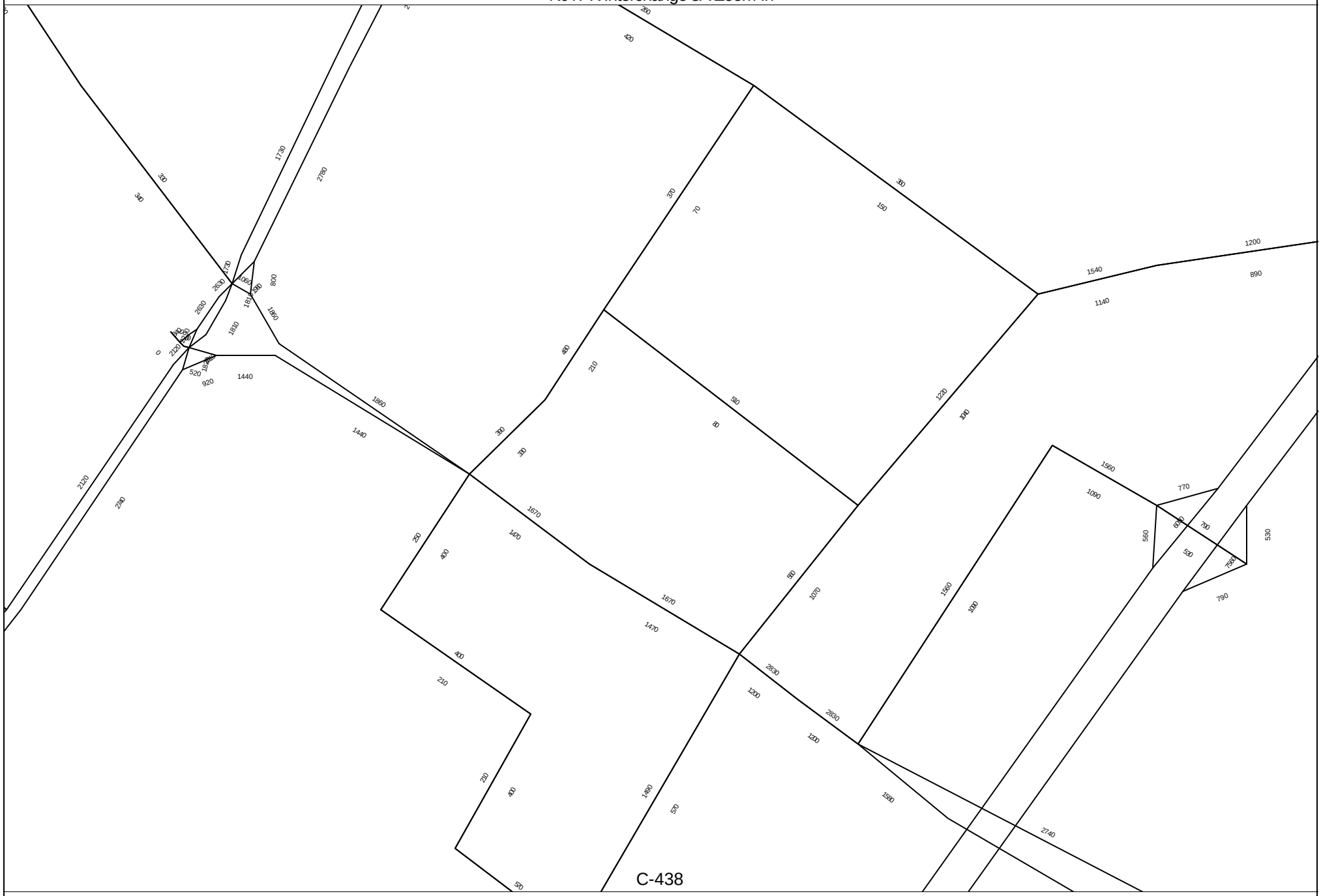
TP+ software by Citilabs 1/30/03 14:39 Licensed to: Garmen Associates

5.9 2028 AM Route 1 – 6 Lanes, No Signals Volumes

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Route 92 Area

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
NJTPK Interchange 8A Zoom-In



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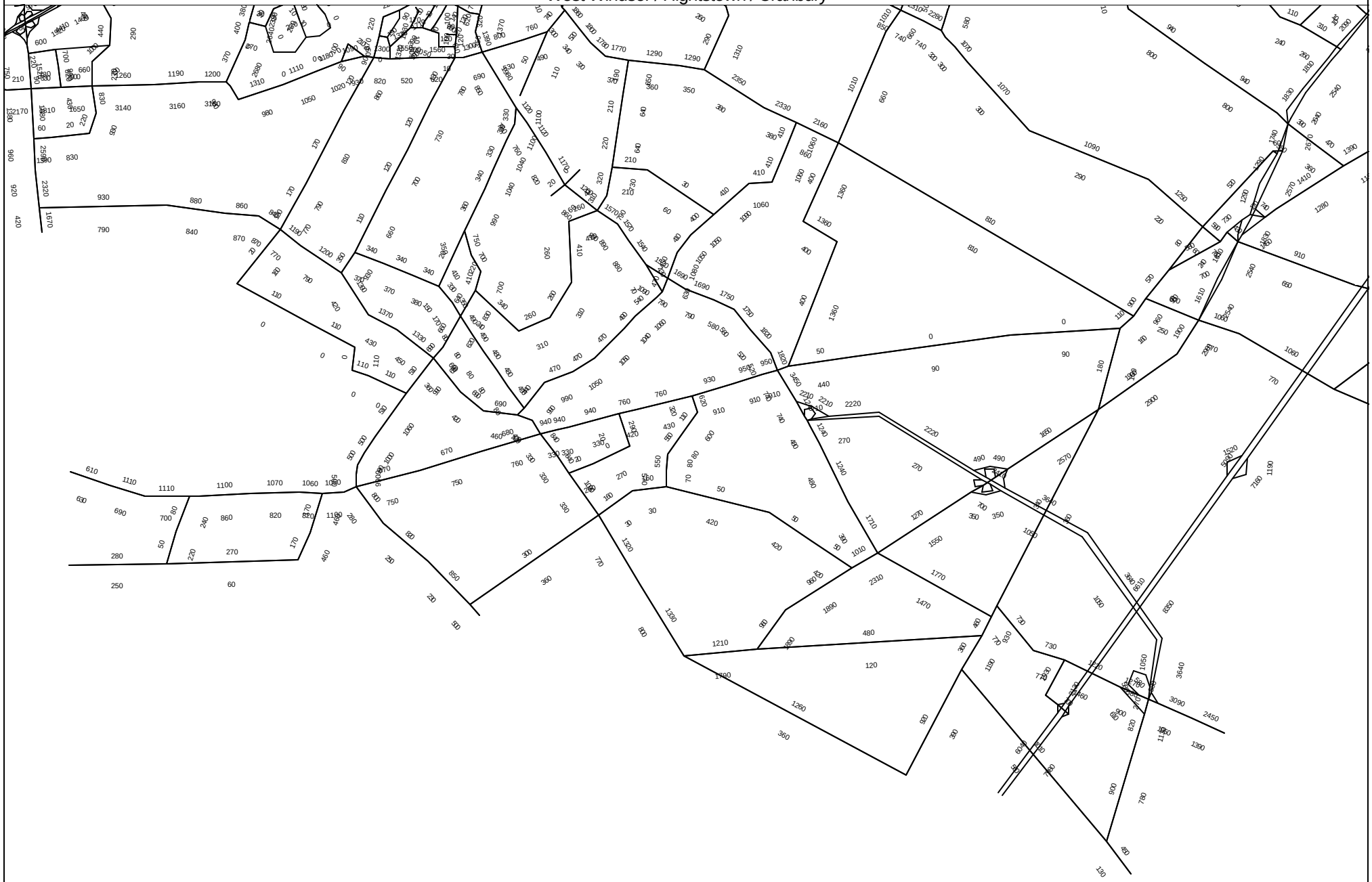
2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
West Windsor / Hightstown / Cranbury



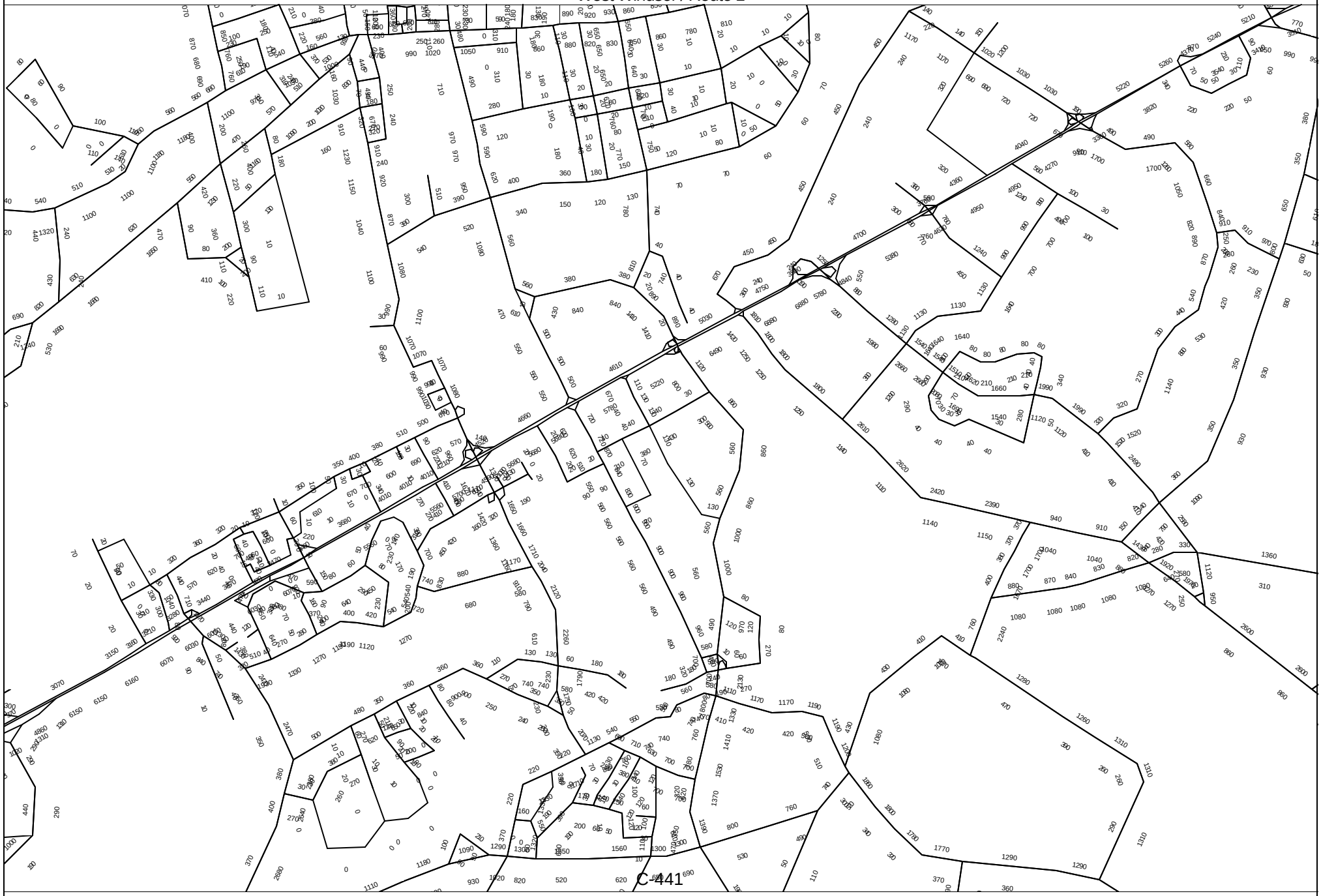
TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Route 1 / Nassau Park Blvd

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes

West Windsor / Route 1



TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Central West Windsor

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Princeton Township

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Princeton Boro

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Downtown Princeton

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

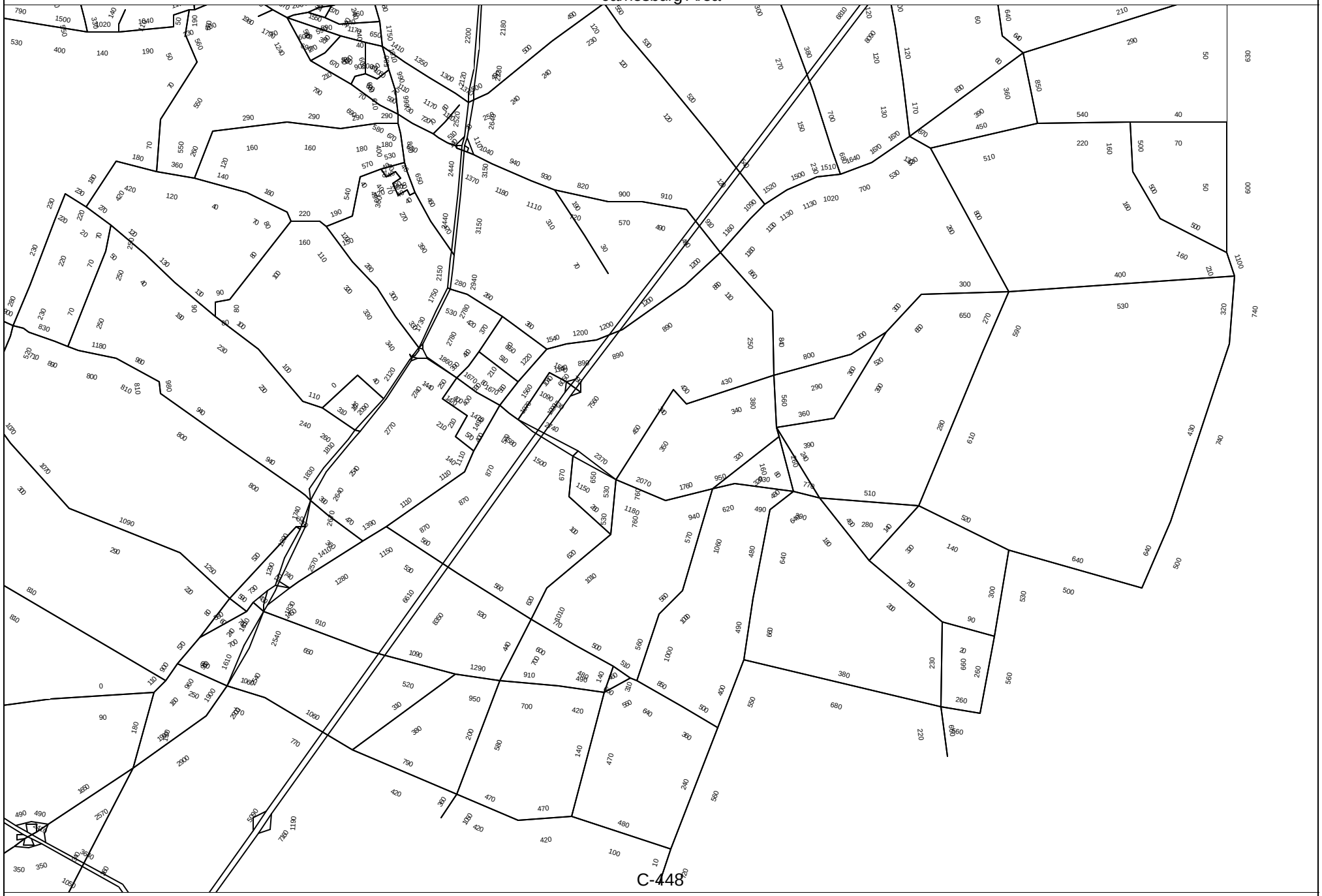
2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - AM Projected Volumes
Jamesburg Area



TP+ software by Citilabs 1/31/03 10:11 Licensed to: Garmen Associates

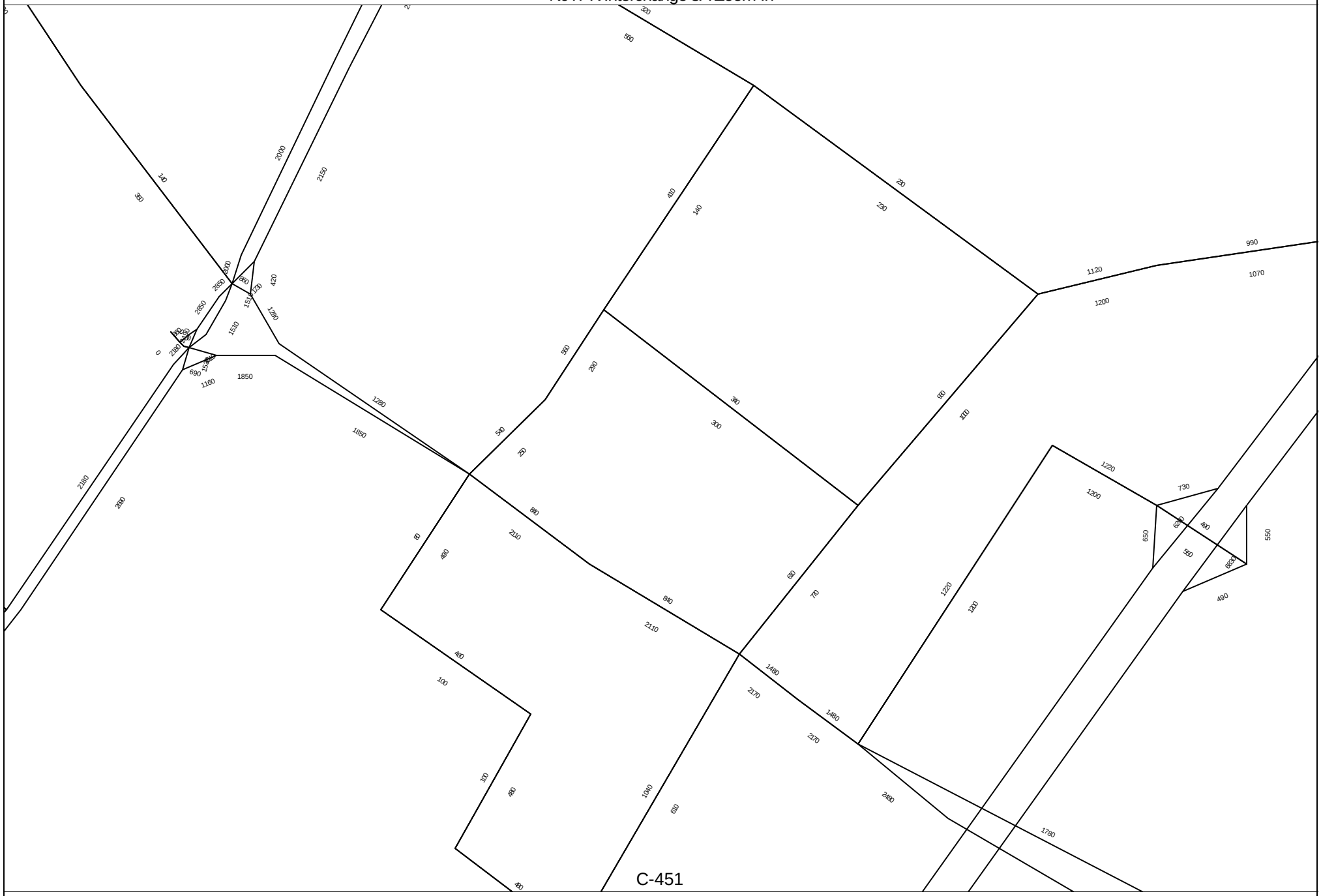
5.10 2028 PM Route 1 – 6 Lanes, No Signals Volumes

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Route 92 Area

C-450

TP+ software by Citilabs 1/30/03 18:17 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
NJTPK Interchange 8A Zoom-In



C-451

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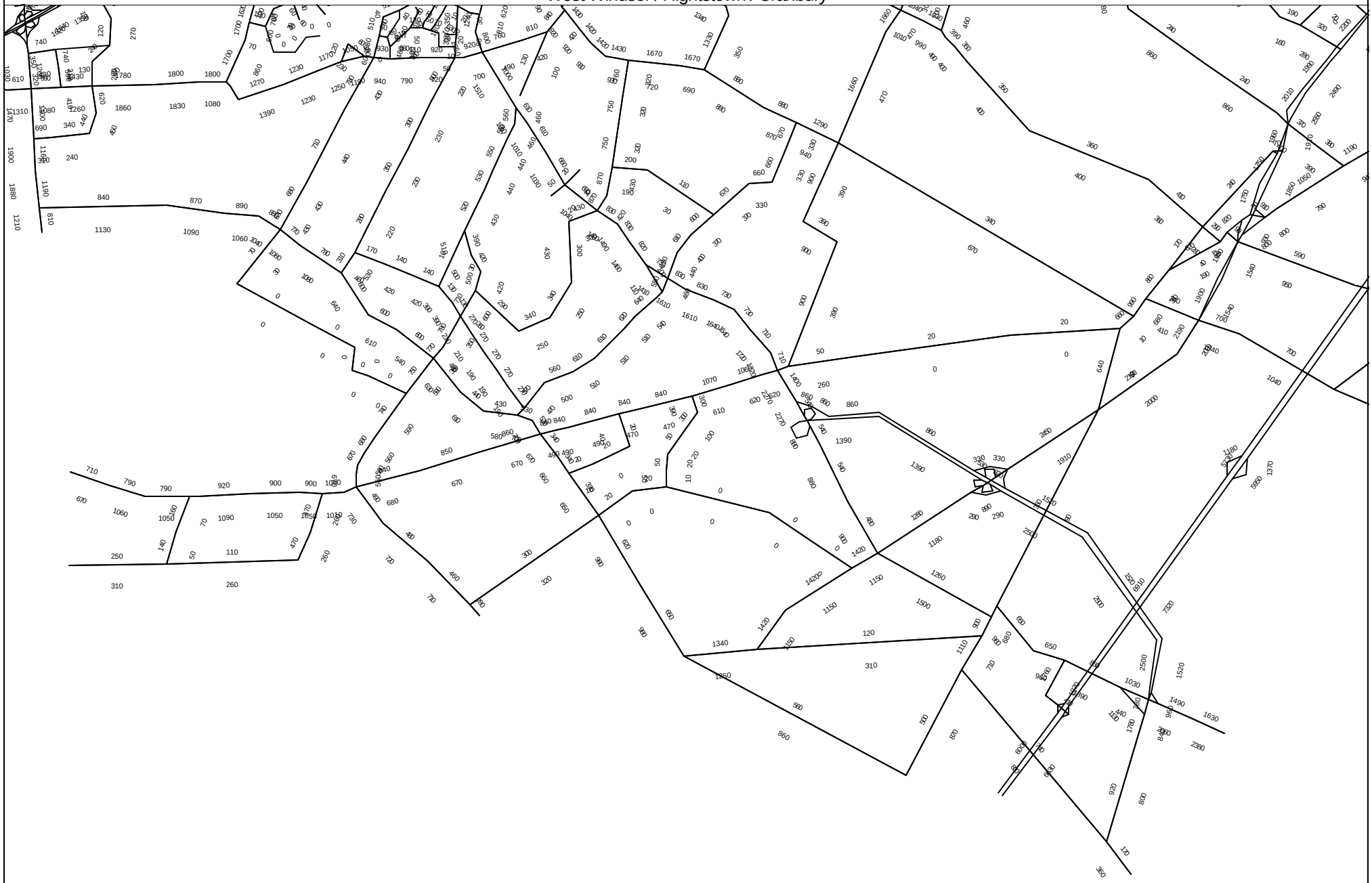
2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
West Windsor / Hightstown / Cranbury



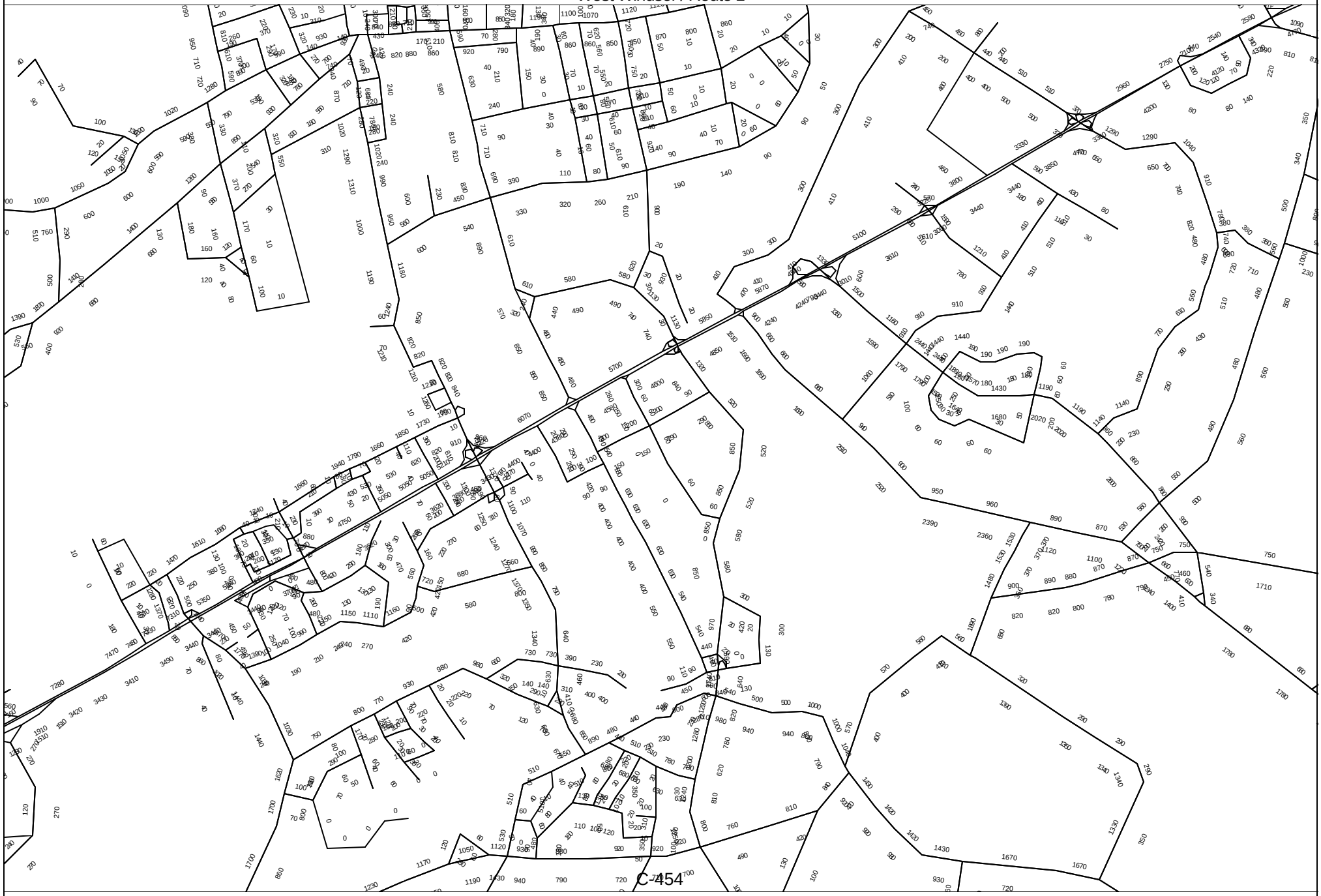
TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Route 1 / Nassau Park Blvd

TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes

West Windsor / Route 1



TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Central West Windsor

TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Princeton Township

TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Princeton Boro

TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Downtown Princeton

TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

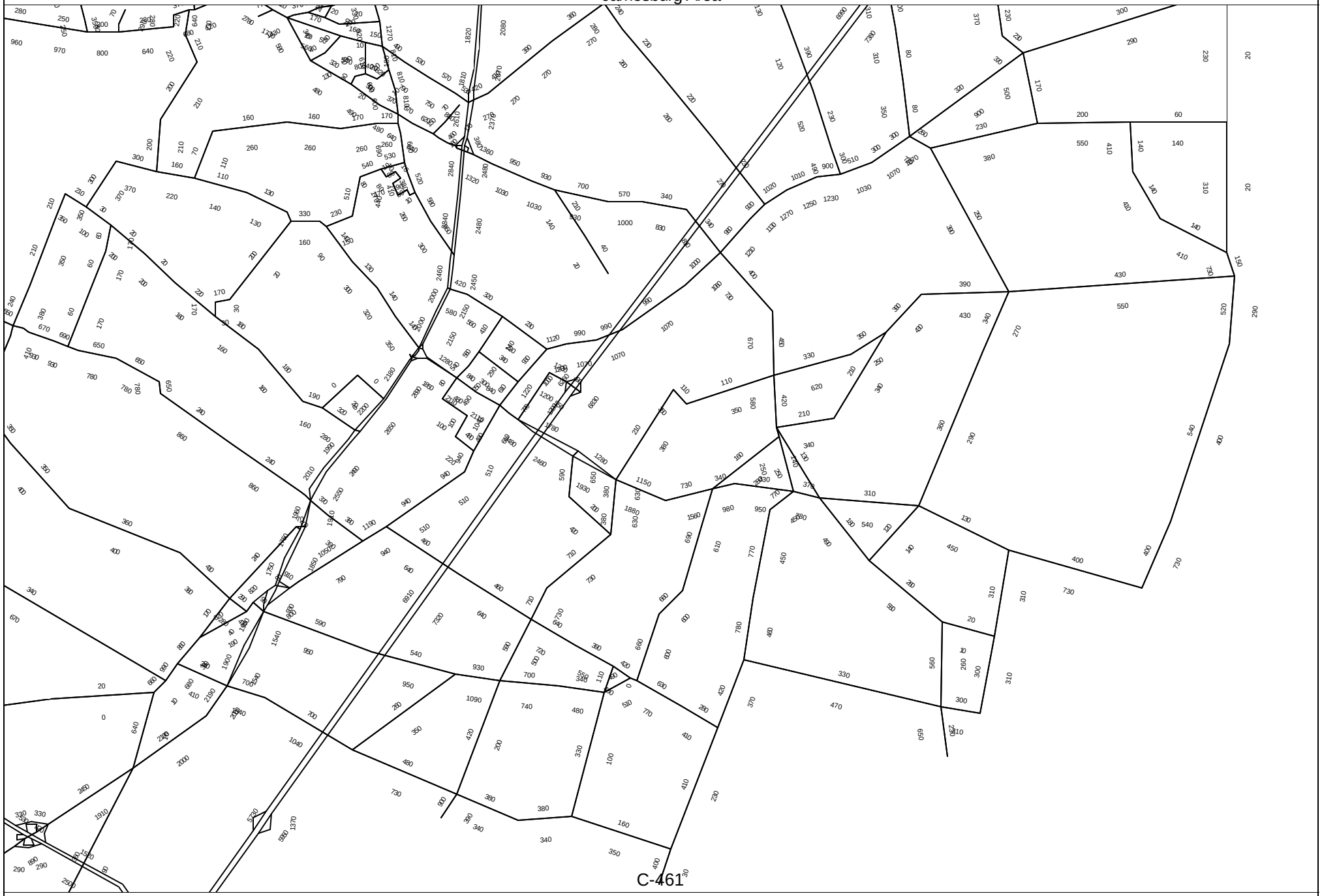
2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
North Brunswick / Kendall Park Area

TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Kendall Park Zoom-In

TP+ software by Citilabs 1/30/03 18:18 Licensed to: Garmen Associates

2028 Route 1 - 6 Lanes, No Signals - PM Projected Volumes
Jamesburg Area



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