

Traffic Conditions

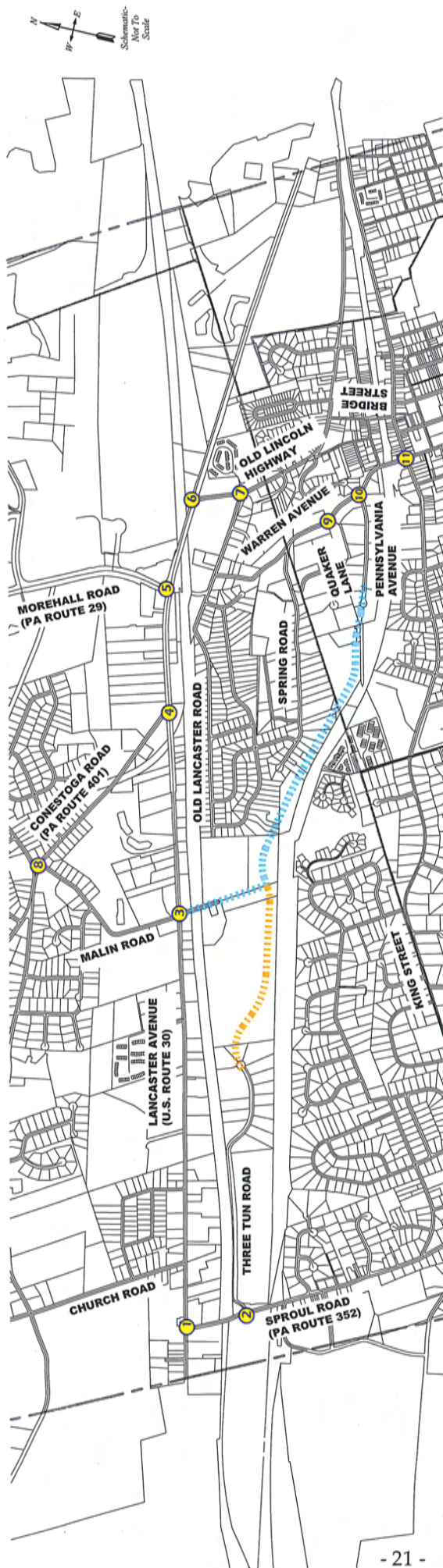
In terms of traffic operations, this study evaluates the weekday commuter peak periods, as these peak periods see the highest traffic levels of the day and offer a worst-case condition. Weekday morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) peak hour traffic volumes were obtained from existing sources for most study intersections in order to reduce the data collection effort and scope of the project. Intersection traffic counts conducted specifically for this study included those taken at the Warren Avenue intersections with Pennsylvania Avenue and Quaker Lane.

The weekday morning and afternoon peak hour traffic volumes are shown in **Figures 10 and 11** for the study intersections. **Table 1** summarizes the Average Daily Traffic (ADT) along various roadway segments in the study area, as reported by PennDOT.

Table 1 | Daily Traffic in Study Area

Roadway	Average Daily Traffic	Heavy Vehicle %
Lancaster Avenue		
- west of PA Route 352	17,800	7%
- west of Malin Road	20,000	6%
- east of PA Route 401	25,700	7%
- east of Old Lincoln Highway	26,900	4%
PA Route 352		
- south of Three Tun Road	10,000	3%
King Street		
- west of Warren Avenue	6,300	4%
Old Lincoln Highway		
- north of Old Lancaster Road	12,200	5%
Warren Avenue		
- north of Pennsylvania Avenue	4,000	(restricted)

The weekday morning and afternoon peak hour traffic volumes were subject to detailed capacity/level-of-service analysis in accordance with the standard techniques contained in the



STUDY AREA MAP
INTERSECTION VOLUMES

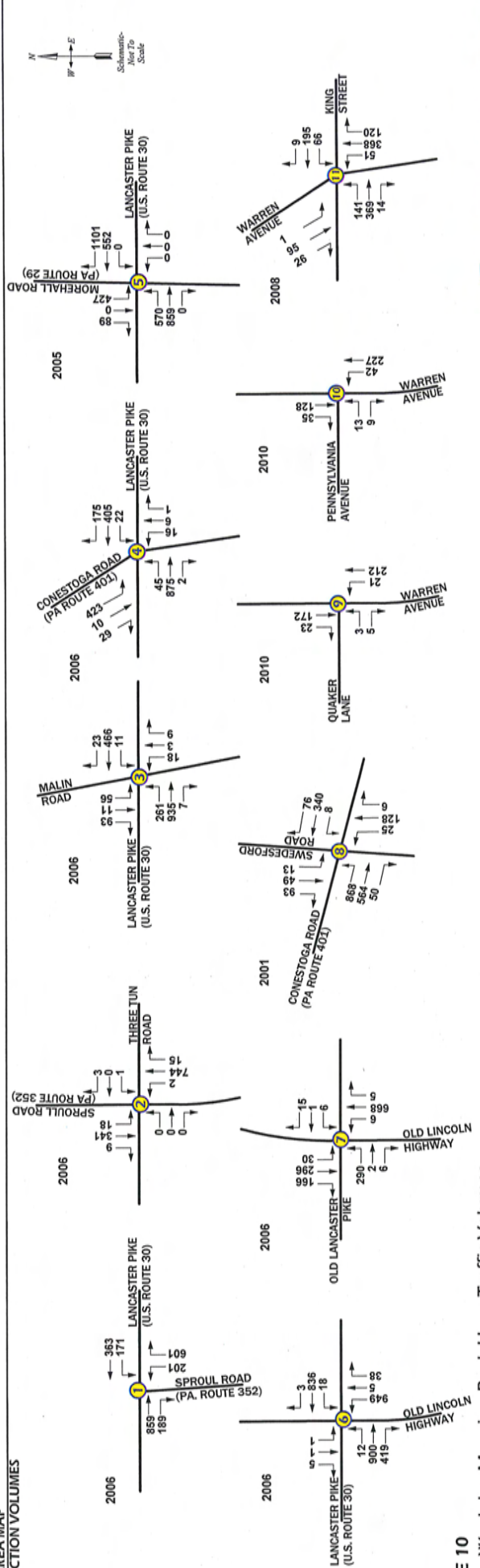
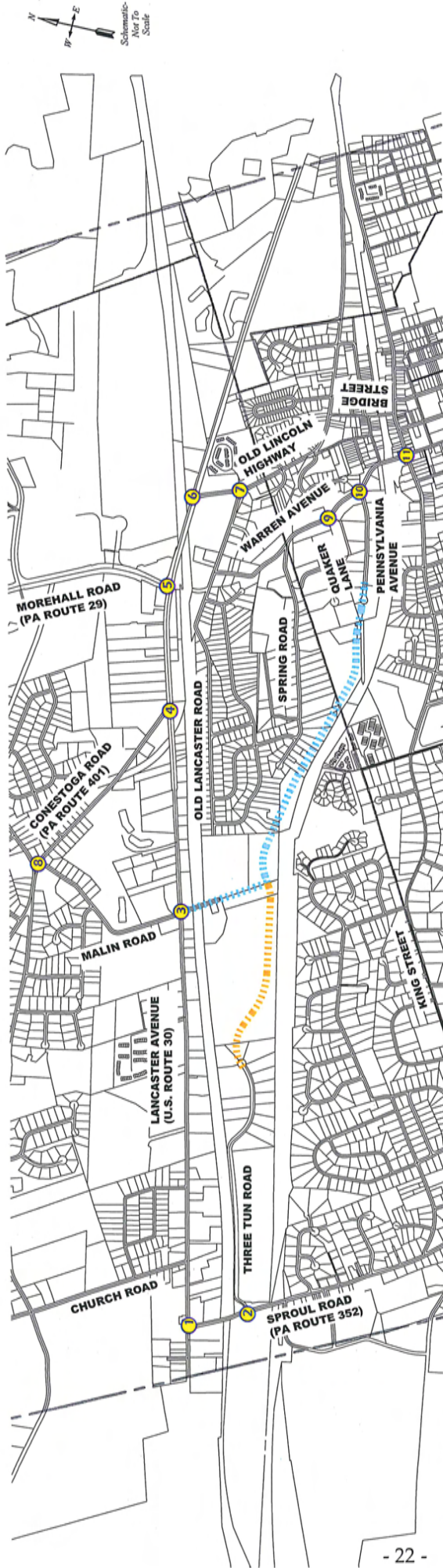


FIGURE 10
Existing Weekday Morning Peak Hour Traffic Volumes
MALIN ROAD EXTENSION
FEASIBILITY STUDY
MALVERN BOROUGH, CHESTER COUNTY, PA



STUDY AREA MAP
INTERSECTION VOLUMES

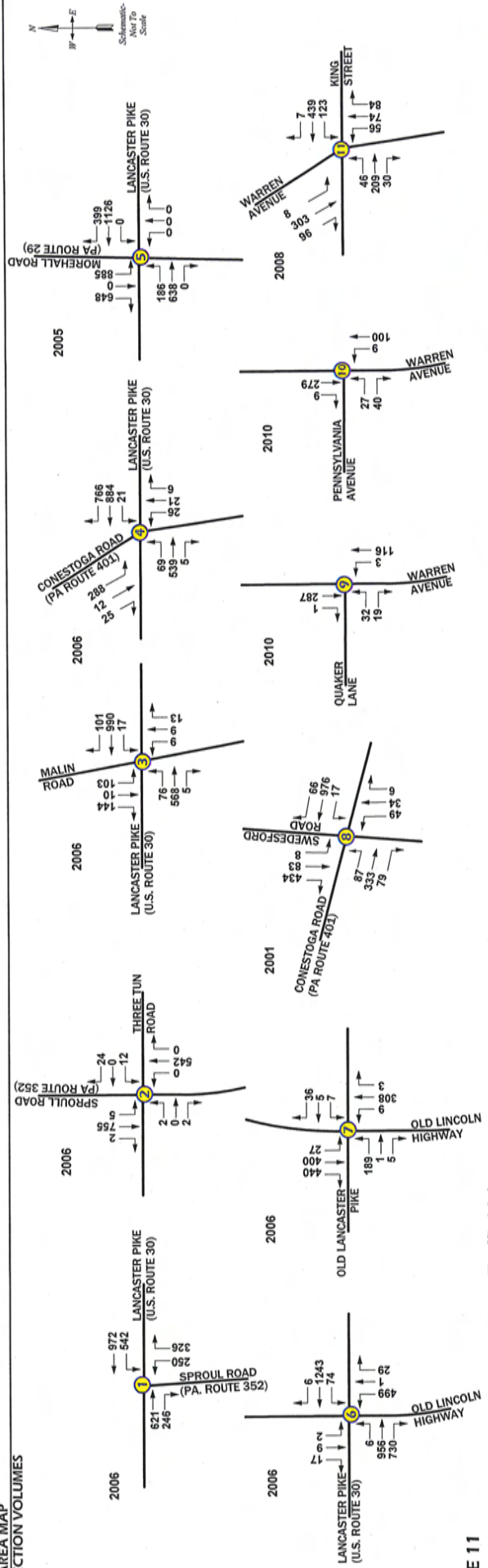


FIGURE 11
Existing Weekday Afternoon Peak Hour Traffic Volumes
MALIN ROAD EXTENSION
FEASIBILITY STUDY
MALVERN BOROUGH, CHESTER COUNTY, PA

Highway Capacity Manual. The standard capacity/level-of-service analysis techniques, which calculate total control delay, are more thoroughly described in **Appendix B**, and include the correlation between average total control delay and the respective levels of service (LOS) for signalized and unsignalized intersections. In the surrounding area, PennDOT District 6-0 and many municipalities consider LOS A through D acceptable operating conditions while LOS E represents conditions approaching capacity and LOS F indicates that traffic volumes have exceeded available capacity. The overall intersection delay is summarized in **Table 2** for the study intersections. The capacity analysis for intersections 1 through 8 was taken from recent traffic impact studies, and capacity analysis for intersections 9 through 11 was completed by our office. The detailed capacity analysis worksheets for intersections for intersections 9 through 11 are contained in **Appendix C**.

Table 2| Existing Intersections Operations

No.	Intersection	Overall AM LOS	Overall PM LOS
1.	Lancaster Avenue & PA Route 352	F	F
2.	PA Route 352 & Three Tun Road	1	1
3.	Lancaster Avenue & Malin Road	B	B
4.	Lancaster Avenue & PA Route 401	C	B
5.	Lancaster Avenue & PA Route 29	F	D
6.	Lancaster Avenue & Old Lincoln Highway	E	C
7.	Old Lincoln Highway & Old Lancaster Road	1	1
8.	PA Route 401 & Malin Road/Swedesford Road	F	E
9.	Warren Avenue & Quaker Lane	1	1
10.	Warren Avenue & Pennsylvania Avenue	1	1
11.	Warren Avenue & King Street	C	B

1 – Overall LOS is not calculated for unsignalized intersections; however, at least one movement functions with LOS E or worse.