

MALVERN TRANSIT ORIENTED DEVELOPMENT STUDY



Borough of Malvern

in cooperation with

Delaware Valley Regional Planning Commission

Chester County Planning Commission

Southeastern Pennsylvania Transportation Authority

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The market demand study is available in a separate document.

EXECUTIVE SUMMARY

The Borough of Malvern received a local match grant from the Delaware Valley Regional Planning Commission (DVRPC) to conduct a study of transit oriented development (TOD) opportunities in the area of the Malvern train station. A TOD is defined as a compact, mixed-use, pedestrian-friendly development surrounding a transit station. The Borough was motivated to study TOD because of its potential benefits. A TOD could:

- reinforce the Borough's vitality
- allow the Borough to proactively shape redevelopment, or limit redevelopment
- provide Incremental tax income to support infrastructure improvements
- take trucks off the streets, if a new access is built as a result
- improve pedestrian access to the north side of the tracks
- add parking, if a garage is built as a result
- increase land and home values
- better utilize the valuable transportation asset of the train station

The study was conducted over a one-year time frame from fall 2012 to fall 2013. The study received guidance from five meetings of a Study Advisory Committee (SAC) comprised of DVRPC, the Southeastern Pennsylvania Transportation Authority (SEPTA), Chester County Planning Commission (CCPC), and Malvern Borough. Several additional meetings and phone conferences were held during the course of the study with the SAC members from Malvern Borough.

Two public workshops were held: the first in fall 2012 to introduce the study and obtain community input on the goals of TOD, and the second in summer 2013 to present the results of the studies and alternative concepts for TOD development. The public response to TOD was mixed, with some people receptive to change and others strongly opposed to growth. There was general agreement that the small town charm and historic quality of Malvern is very important and needs to be maintained.

The study took place during construction of Eastside Flats, a 190-unit apartment development with retail that is the largest single development to occur in the Borough in recent memory. Many community members expressed concern that until the impacts of that development are known, they are not comfortable with planning for another, potentially larger development. There was no consensus on the form of TOD, or in fact whether there should be any TOD at all. The Borough is not ready to move forward with TOD at this time.

Therefore, this report documents the results of the studies conducted and the alternative concepts that were presented for the area north of the railroad tracks. Studies that were conducted as part of this effort included a questionnaire survey of SEPTA passengers at the Malvern station, traffic counts at the station driveways, a parking demand study with occupancy counts at the station parking lots as well as at three municipal lots and on the streets within two blocks of the station, a market demand study to determine the market potential for development in the Malvern TOD area, a review of existing zoning ordinances, and development of guidelines for a TOD overlay ordinance. This information provides a foundation for any future consideration of development or TOD overlay district in the area of the Malvern station.

A conclusion from the public involvement process is that any future effort to form a TOD will need to have more extensive public outreach. Despite the public workshops and the Borough's efforts to promote them, many people felt they were not informed. It may require that individual notifications be sent to all homeowners and that email alerts be sent in advance of all public meetings dealing with the subject. A charrette, which is a collaborative design event that fosters community ownership of the resulting plan, could also be considered.

With the market demand shown by this study, there will likely be continual pressure to respond to development and redevelopment applications. Malvern Borough should take a proactive role to determine what fits best into the community and how to best craft ordinances to accomplish this.

The study determined several improvement recommendations that should be pursued independently of TOD.

King Street

On King Street, the most appropriate type of development for the near term is refurbishment and infill development on a scale consistent with existing zoning. This approach would allow for economic development while preserving the precious asset of Malvern's small-town character. Guidelines for infill development on King Street are provided as an appendix to this report.

Parking

One clear conclusion from the parking study is that the King Street area experiences its peak parking demand during the evening, particularly on Fridays and Saturdays, due to bar and restaurant demand. Development of new restaurants is inhibited by inability to meet zoning requirements for parking. However, this demand is not sufficient to support a new parking facility. The SEPTA parking lots at the Malvern station are largely empty during the evenings and weekends. It is recommended that Malvern Borough pursue an agreement with SEPTA that would allow public parking to occur in the train station lots during off peak periods, particularly Friday evenings.

SEPTA will most likely not construct a new stand-alone parking facility at Malvern to increase ridership. SEPTA could respond cooperatively to a development driven by others that involved some parking component. Cooperation would also be needed from Amtrak, the owner of the station property. Funding is a significant concern for any parking facility; a funding partnership would be needed.

The Borough could consider providing additional on-street parking spaces on King Street west of the shopping center. Spaces in this area would not need time limits and could serve employee or train station parking demand.

Pedestrians

Pedestrian signals should be added to the traffic signal at King Street and Warren Avenue.

A sidewalk is needed along North Warren Avenue to Pennsylvania Avenue for industrial park employees who ride the train. Malvern Borough should request that CCPC include sidewalk on North Warren Avenue in its Transportation Improvements Inventory (TTI).

For any redevelopment, Malvern should consider requiring the developer to design and construct ADA-compliant, comfortable sidewalk connections.

Trucks

The Borough should work with industrial park businesses to reduce impact of trucks on Bridge Street and Broad Street in the near term, until the planned extension of Malin Road can be achieved.

- Identify the truck impacts that most concern residents
- Survey individual industrial park businesses about their shipment and delivery vendors and vehicles
- Attempt to negotiate changes to reduce impacts (changing tractor trailer use to smaller trucks, modifying hours of operation, etc.)

Signs

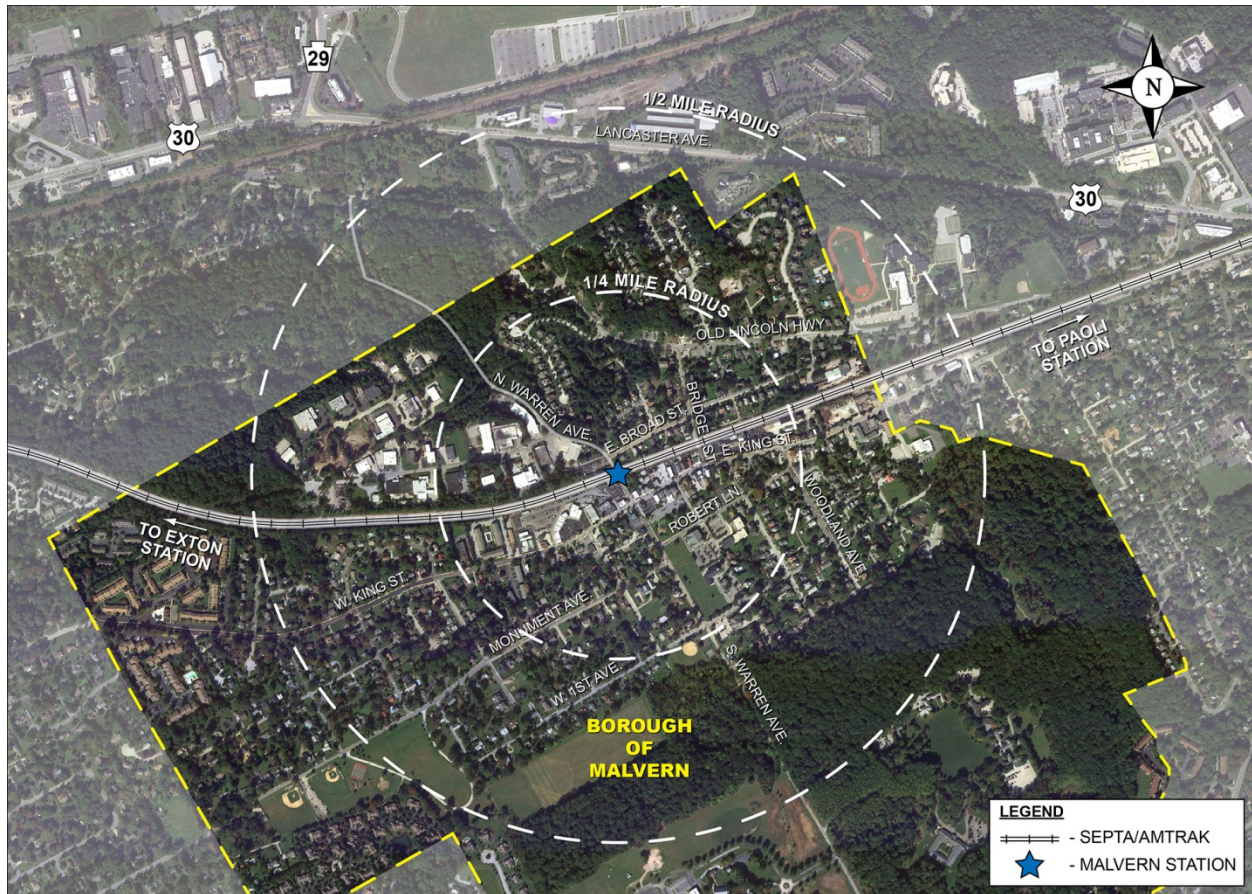
Directional signs are needed at the intersection of King and Bridge Streets and at King Street and Warren Avenue to direct drivers to the SEPTA station entrance on West King Street.

Owners of King Street businesses adjacent to the station parking lot have an opportunity to increase their visibility to train station commuters by adding signing at the rear of their buildings and improving pedestrian access.

INTRODUCTION

The Borough of Malvern received a grant from the Delaware Valley Regional Planning Commission (DVRPC) to conduct a study of transit oriented development (TOD) opportunities in the area of the Malvern station on SEPTA's Paoli-Thorndale Regional Rail Line. The study area, shown in Figure 1, focused on the area within one-quarter mile of the station, and specifically within the existing LI-zoned area north and west of the station.

Figure 1. Study area.



PUBLIC INVOLVEMENT

A Study Advisory Committee was established consisting of representatives of Malvern Borough, DVRPC, the Southeastern Pennsylvania Transportation Authority (SEPTA), and the Chester County Planning Commission (CCPC). The SAC met five times over the course of the project.

- August 10, 2012: project initiation and visioning
- October 11, 2013: walking tour
- December 13, 2012: results of parking and market demand studies
- February 22, 2013: alternative development concepts
- May 15, 2013: alternative development concepts

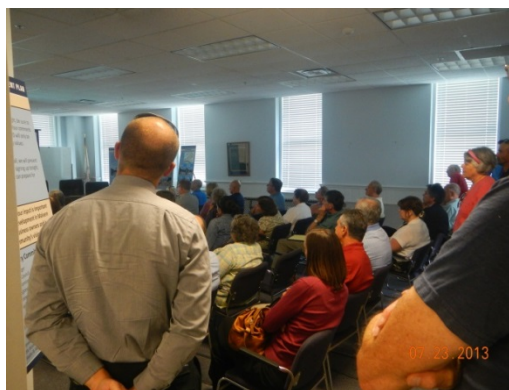
Phone interviews were conducted with nine stakeholder representatives identified by the Borough, including business owners, property owners, realtors and developers. In these interviews comments were prompted by asking questions such as:

- General satisfaction with how things are going now
- Do you or your business have any interaction / relation with the train station area or with commuters?
- Do you have any issues with the station today? Transportation, parking issues?
- What type of development would you like to see in train station area?
- How do you think train station area development might affect you or your business?
- What kind of use would benefit the town? Why?
- What would you like the area to look like in 20 years?
- Any barriers or difficulties to development?

Input from existing SEPTA train riders was obtained through a questionnaire survey administered to riders at the Malvern station during the morning commuter peak period of October 3, 2012. The survey obtained 232 responses.

Two public workshops were held at Malvern Borough Hall.

- The first workshop held on September 25, 2012 to explain the study purpose and goals and to obtain public input on needs and vision. The top five Common Themes expressed by workshop participants are:
 - Malvern has a small town charm that needs to be maintained
 - Some buildings on East King Street need rehabilitation
 - Land north of tracks may be appropriate for redevelopment
 - Maintain historic fabric and adaptive reuse of historic buildings
 - Traffic through Malvern is a problem, especially during rush hours
- The second workshop held on July 23, 2013 to present the results of studies and obtain feedback on TOD concepts and alternatives. The workshop was attended by about 75 people. A questionnaire survey administered at this workshop obtained responses from 34 attendees. The questionnaire revealed concerns about impact of TOD on the Borough's character, concerns about traffic, and desire to see the impact of Eastside Flats before encouraging more development. Half of questionnaire respondents said some kind of TOD would be good for the Borough, and about half were strongly opposed to significant growth. The full survey tabulation is included in the Appendix of this report.



About 75 people attended the July 23, 2013 public workshop sessions at Borough Hall.

A final presentation for the study was given on November 19, 2013 and was attended by approximately 100 people. While alternative concepts developed by the study were shown, the conclusion was presented that there is no consensus to move forward with TOD in Malvern at this time. There is not sufficient community support to recommend a TOD alternative.

TRAIN SERVICE AND RIDERSHIP

TRAIN SERVICE AND SCHEDULE

Malvern station is on SEPTA's Paoli-Thorndale regional rail line. It is in fare Zone 4, which includes all the stations from Paoli to the western end of the line at Thorndale. Malvern is an Amtrak-owned station that SEPTA leases. The Amtrak Keystone Line runs on the same track but does not stop at Malvern. Amtrak stops at the nearest stations to the east (Paoli) and west (Exton). Renovations to the station completed in 2011 constructed ADA access from the street to the station. The train platform itself is not ADA-compliant. Amtrak requires high-level platforms, but Malvern is not an Amtrak station.

Malvern is the westernmost station on the Paoli-Thorndale line that has seven-day-per-week service and 30-minute weekday service. On weekdays the span of service at Malvern Station is 5:00 am – 11:30 pm eastbound and 6:30 am – 1:00 am westbound. Service frequency in each direction is approximately every 30 minutes all day, and more frequent for the peak direction during the peak hours. Travel time to Center City Philadelphia varies, but is generally on the order of 50 minutes. There are five trains eastbound between 6:57 am and 8:00 am and four trains westbound between 4:44 pm and 5:42 pm. One of the AM peak hour and one of the PM peak hour trains is a "Great Valley Flyer," which does not stop between Paoli and 30th Street Station. This express service, which reduces travel time to and from Center City Philadelphia to about 35 minutes, is extremely popular and requests have been made for additional flyer trains.

Saturday train service at Malvern operates with 30-minute headways for much of the day and one-hour headways in the evening. On Sundays and major holidays Malvern Station has hourly service.

At stations west of Malvern, weekday train frequency is one hour during the off-peak and 30 minutes during peak periods. Saturday train headway at these stations is two hours. There is no train service to stations west of Malvern on Sundays or holidays.

TRAIN STATION RIDERSHIP

SEPTA conducts an annual census of ridership. According to the available census from 2011, there were 23,160 weekday passenger trips (both directions) on the Paoli-Thorndale line. Malvern station had 1,146 passenger trips on a weekday. Ridership at Malvern increased three percent from the 2010 census, but was slightly below the historical peak year of 2007. The station was under construction from March 2010 to September 2011. Current ridership may well be higher than the 2011 census.

Virtually all riders at Malvern board eastbound trains and alight from westbound trains. Fewer than 10 people per day board to travel west and alight from eastbound trains according to the 2011 census. 65% of all weekday boardings occur during the morning peak period of 6:00 am – 9:00 am. Another 15% of weekday boardings occur between 3:30 pm and 5:00 pm. Alightings from westbound trains show the reverse pattern, with 13% in the AM peak period and 59% in the PM peak period. Overall, peak period ridership represents about 80% of total weekday ridership. The weekday train boardings and alightings by time of day are shown in Figure 2.

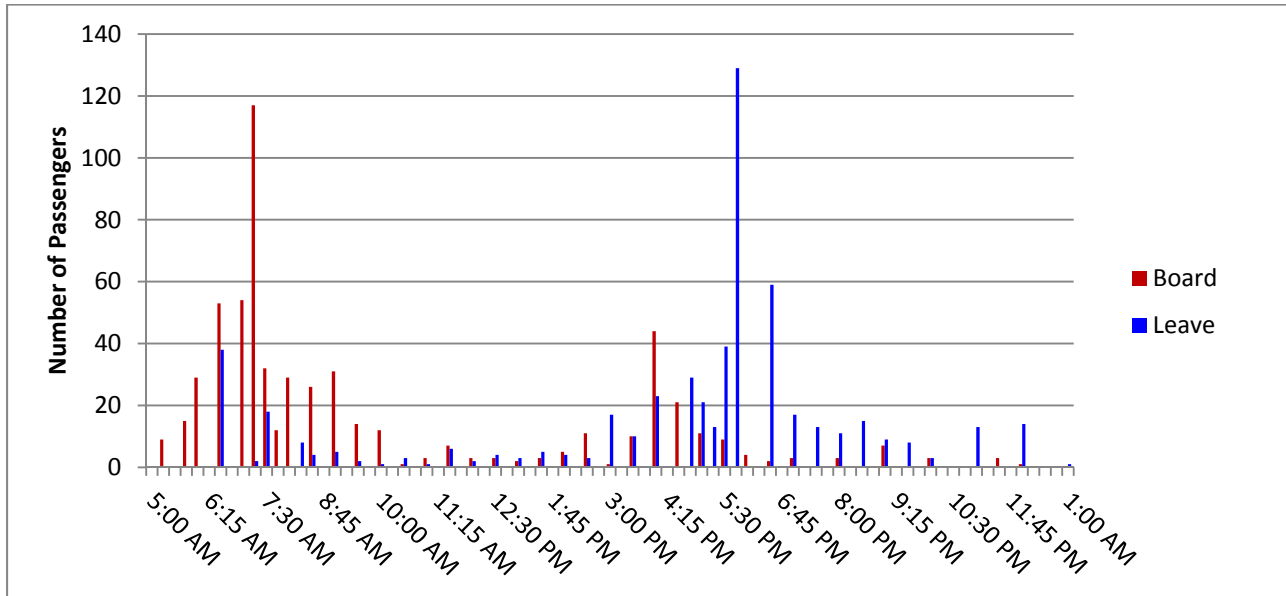
Saturday daily ridership at Malvern Station is 476 trips (total boarding and alighting). Sunday ridership is 475 trips. This is about 40% of weekday ridership levels.

RIDER SURVEY

To obtain information on train riders' trip origin, trip purpose, and attitudes about the station, a survey was conducted at Malvern station on Wednesday, October 3, 2012. The survey was conducted at the inboard platform from 6:00 am – 9:00 am. Nine trains departed during that period: 6:09, 6:33, 6:57, 7:16, 7:33, 7:40, 8:00, 8:33, and 8:54 am.

Survey staff handed out survey cards to passengers on the platform after they had bought their ticket and/or paid for parking. Passengers were asked to complete the card as they waited and to return the card to a surveyor or to a marked drop box at each loading platform. Cards were also handed to passengers waiting inside the station building or in cars stopped in front of the station.

Figure 2. Malvern station boardings and alightings by train time (2011).



A total of 232 cards were completed and collected during the three-hour survey period. This represents 51% of the inbound train boardings during the survey period, which is an excellent response rate. Additional cards were handed out to people who did not have time to complete the survey before boarding. They were asked to return the cards to a drop box located inside the station. However, no additional cards were received.

ZIP Code of Residence

Of the 232 responses, 110 (or 48% of the total) came from the Malvern ZIP code, 19355. Of these, 56 people (or 24% of the total) are Borough residents. Five people from other ZIP codes also responded that they are Borough residents. 30% of the total respondents came from West Chester ZIP codes. The next highest ZIP codes were Phoenixville with approximately 7% and Exton with approximately 6% of the total respondents. A complete list of the ZIP codes is shown in Table 1.

Trip Purpose

Work trips represented 88% of the total trips. School trips were 10% of total trips. Five people, or 2%, responded that the trip was for personal business.

Mode of Travel to Train Station

Driving was the main mode of travel to the station at 74%. Another 14% were dropped off and 11% walked. One person came by bicycle. No one responded that they came by bus. Mode split for Borough residents compared with non-residents is illustrated in Figure 3. Sixty percent of Borough residents drove or were dropped off; overall, the total percentage driving or dropped off was 88%. It is noted that the walking mode split for Borough residents was 38%, which is exceptional.

Parking Location

People that drove to the station were asked where they parked. 169 people responded that they drove to the station. Twelve of these people (or 7%) said they parked on the street and 2% said they parked in a non-SEPTA lot. The rest parked in the SEPTA lot.

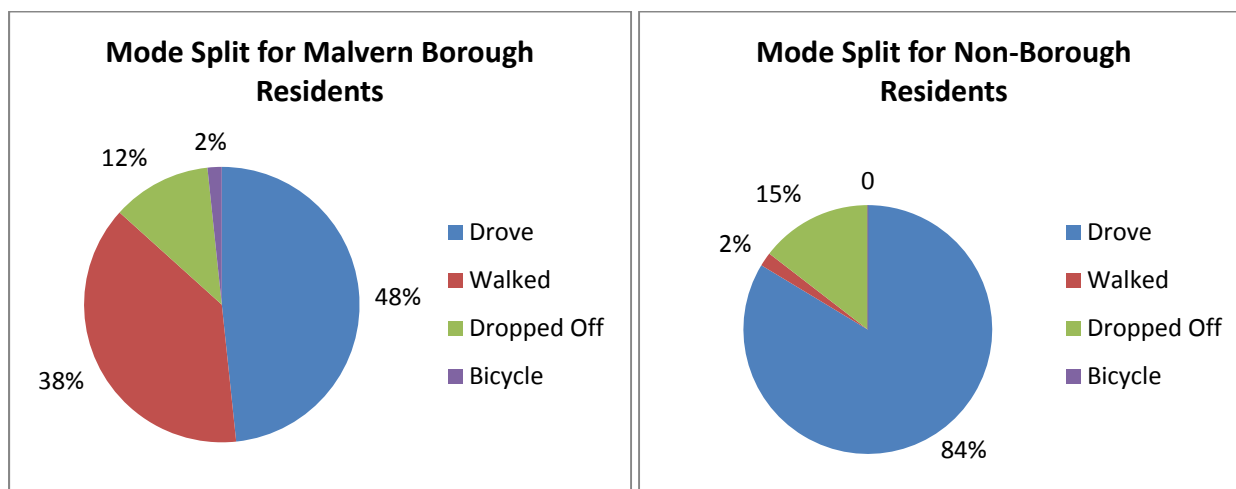
Trip Purpose

Work trips represented 88% of the total trips. School trips were 10% of total trips. Five people, or 2%, responded that the trip was for personal business.

Table 1. ZIP code of residence of SEPTA riders at Malvern station.

| Zip Code | Number of Responses | Percent | Post Office |
|------------------|---------------------|---------|---------------------------|
| 19355 | 110 | 47.4% | Malvern |
| 19380 | 49 | 21.1% | West Chester |
| 19382 | 19 | 8.2% | West Chester |
| 19460 | 16 | 6.9% | Phoenixville |
| 19341 | 13 | 5.6% | Exton |
| 19425 | 7 | 3.0% | Chester Springs |
| 19073 | 3 | 1.3% | Newtown Square/Willistown |
| 19520 | 2 | 0.9% | Elverson |
| 19320 | 1 | 0.4% | Coatesville |
| 19335 | 1 | 0.4% | Downingtown |
| 19543 | 1 | 0.4% | Morgantown |
| 19343 | 1 | 0.4% | Glenmoore |
| 19301 | 1 | 0.4% | Paoli |
| 19083 | 1 | 0.4% | Havertown |
| 19508 | 1 | 0.4% | Birdsboro |
| 19372 | 1 | 0.4% | Thorndale |
| 19087 | 1 | 0.4% | Wayne/Radnor |
| 19120 | 1 | 0.4% | Philadelphia |
| 19072 | 1 | 0.4% | Narberth |
| 07922 | 1 | 0.4% | Berkeley Heights, NJ |
| 92617 | 1 | 0.4% | Irvine, CA |
| 232 total | | | |

Figure 3. Mode of travel to Malvern station.



Mode of Travel to Train Station

Driving was the main mode of travel to the station at 74%. Another 14% were dropped off and 11% walked. One person came by bicycle. No one responded that they came by bus. Mode split for Borough residents compared with non-residents is illustrated in Figure 3. Sixty percent of Borough residents drove or were dropped off; overall, the total percentage driving or dropped off was 88%. It is noted that the walking mode split for Borough residents was 38%, which is exceptional.

Parking Location

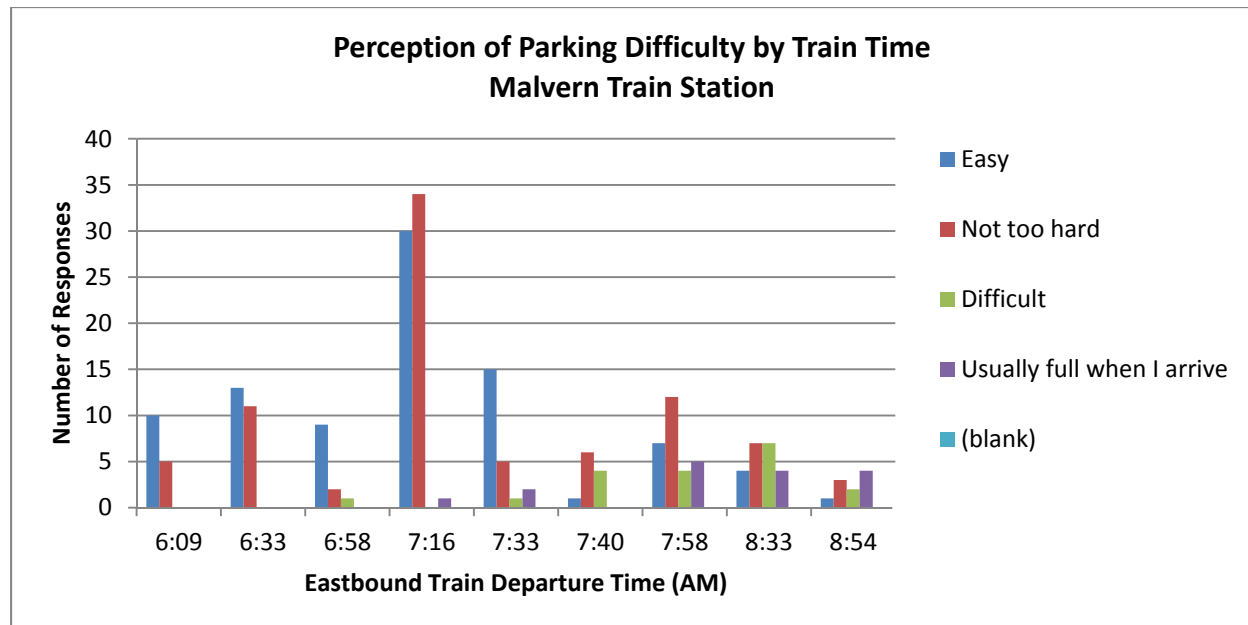
People that drove to the station were asked where they parked. 169 people responded that they drove to the station. Twelve of these people (or 7%) said they parked on the street and 2% said they parked in a non-SEPTA lot. The rest parked in the SEPTA lot.

The parking location was sorted by train time. There was no correlation between a later train time and more parking outside the SEPTA lot. Half of the street parkers came before the 7:16 am train, and the SEPTA lot was never completely full during the survey. Therefore lot capacity is not the only factor in station patrons' decisions about whether to park on- or off-street. Some people may be parking on the street because it is free or to avoid congestion when entering or exiting the lot.

Difficulty of parking in the SEPTA lot

Riders were asked how difficult it was to find parking in the SEPTA lot, and responses were sorted by train time. The percent of people responding 'Difficult' and 'Usually full when I arrive' increased markedly starting with the 7:40 am train. The responses by train time are shown in Figure 4.

Figure 4. Survey response on difficulty of finding parking in SEPTA lot.



Use of Malvern Shops and Restaurants

Riders were asked how often they eat or shop in Malvern before or after their train trip. Another question asked how often they eat or shop in Malvern when not using the train. 228 people responded to these questions. Before or after taking the train, 18% of riders shop or eat once a week or more and another 24% eat or shop once per month. When not using the train, the numbers are higher: 20% eat or shop in Malvern once a week or more and 27% once per month.

The data were examined to see if there is a difference in the responses of Borough residents and non-residents. When not using the train, the percentages are as follows:

- Non-residents who never or rarely eat or shop in Malvern : 60%
- Residents who never or rarely eat or shop in Malvern: 34%
- Non-residents who eat or shop in Malvern once per week or more: 13%
- Residents who eat or shop in Malvern once per week or more: 38%

There is clearly more use of Malvern businesses by the Malvern residents than by non-resident train riders.

Age, Gender, and Income

Riders were asked for some demographic information.

- 51% of the respondents were in the 36-59 year age group. 22% were ages 25–35, 16% under age 25, and 11% over age 60.
- The gender ratio was relatively even with 55% male and 45% female respondents.
- The income range of respondents is shown below. Almost 60% have a household annual income greater than \$100,000.
- Income range:
 - < \$25,000: 2%
 - \$25,000 - \$49,999: 11%
 - \$50,000 - \$100,000: 28%
 - >\$100,000: 59%

Desired Uses or Services

Riders were asked what uses they would like to see in the train station area. 194 of the 232 survey respondents answered this question; 37 left it blank. The responses are listed in Table 2. The highest six responses were listed on the survey card as a choice; the remaining were write-in responses. 175 of the uses mentioned are related to food or coffee.

Other uses listed (one mention each) included: ATM, breakfast place, café with seating, restaurants, Dunkin Donuts, Walgreens, Wawa, grocery with later butcher hours, liquor store, nail salon, tailor, news stand, and sundries.

The mention of Wawa and other businesses that are already located in walking distance of the train indicates that these businesses could obtain more customers by raising visibility and rider awareness and making access more convenient.

Table 2. Uses SEPTA riders would like in proximity to Malvern station.

| Use | Number of Mentions |
|------------------|--------------------|
| Bakery | 85 |
| Sandwich shop | 83 |
| Expanded parking | 60 |
| Dry cleaner | 25 |
| Day care | 7 |
| Housing | 6 |
| Starbucks | 3 |
| Bar | 3 |

Rider Survey Comments on Train Station

Many respondents had positive comments, such as that train station is much improved, that it is nice, that it looks great. Comments were received from 30 individuals that requested changes or improvements (other than more parking) to the station or to train service.

- Five people stated they would like a canopy or cover over the platform to provide shelter from weather.
- Five people had pedestrian-related comments: sidewalk connections, brick walking surface that should be fixed, puddles or ice on steps.
- Five people commented on the parking payment. Their comments included:
 - Provide a cash machine next to kiosks
 - Accept payment by credit card
 - Provide meters near west lot (kiosks are at the station building and many board the train at the western platform)
 - Provide a longer term parking pass option rather than paying every day
 - “I hate that I pay \$19/pass, and still have to pay to park”
- Five people would like more express trains.
- Three people commented on wheelchair access or that the train itself is not accessible.
- Three people would like improvements to station driveway access.
- Two riders commented that sometimes trains stop with the car entries not aligned with the step-up platforms. One rider said, “70% of the time that I take the train from Malvern, the conductor misses the steps up and we all have to climb into the train. Very unsafe.”
- Two people asked for electronic signage with the current time, train information, etc.
- Other comments with one mention each:
 - Longer ticket office hours.
 - Station telephone is rarely answered.
 - Security cameras (this person had damage to their car in the lot).
 - “It would be great to have a real bus stop for the 92 bus.”



PARKING

The parking study analyzed the parking supply and demand in the SEPTA station parking lots, three nearby municipal public parking lots, and on the streets within two blocks of the station. Information was collected on number of spaces and use regulations. Spot occupancy counts were conducted in the SEPTA station lots on several occasions at different times of day. On Wednesday, October 10, 2012, parking occupancy counts were conducted hourly from 11:00 am – 2:00 pm on streets within two blocks of the station and in the three municipal lots.

TRAIN STATION PARKING

SEPTA parking spaces are numbered from #1 to #331. Spaces # 1 – 253 are located in the south lot. Space #70 was striped out to provide pedestrian access from the parking lot to a platform boarding location, so there are 252 numbered spaces in the south lot. Numbered spaces in south lot include one space reserved for Café Crazze and seven handicap spaces. In addition, there is one un-numbered space next to the station building reserved for the station agent.

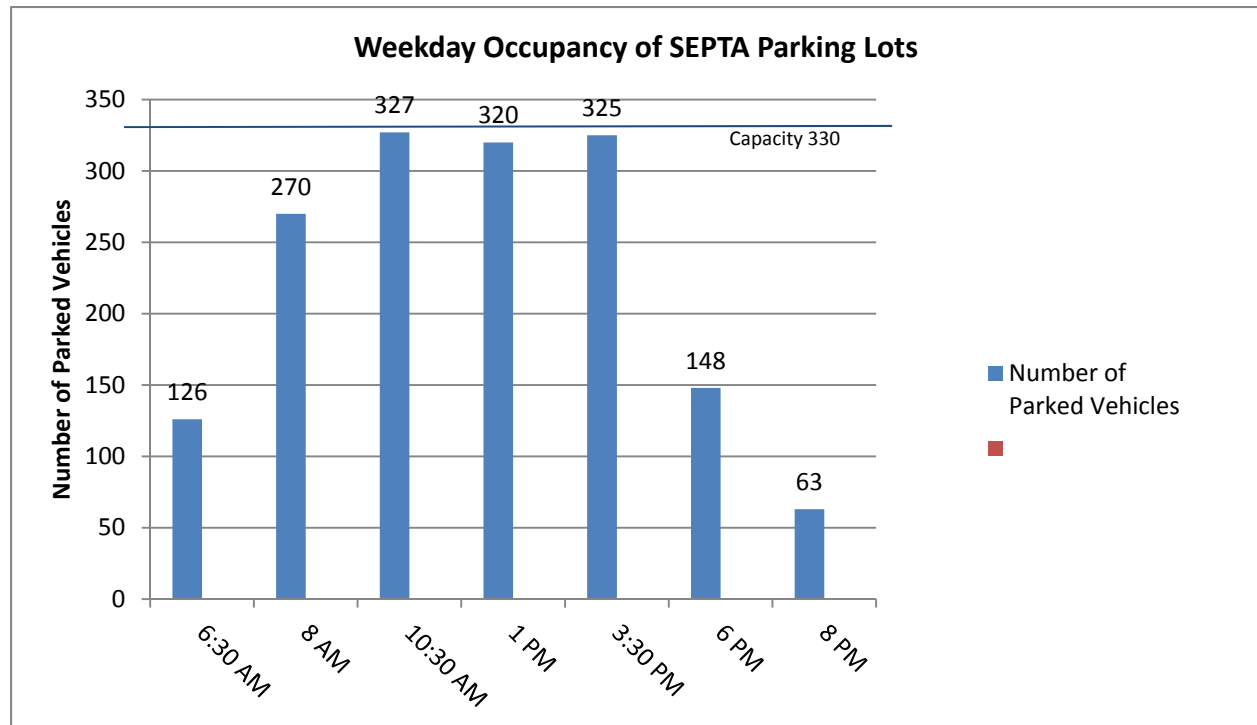
The north SEPTA lot has spaces #254 – 331 (78 total spaces) and includes four handicap spaces.

The total supply of numbered spaces at the Malvern Station is 330, as follows:

| | Regular | Café Reserved | Handicap | Total |
|--------------|------------|------------------|-----------|-------------------|
| South lot | 244 | 1 | 7 | 252 |
| North lot | 74 | | 4 | 78 |
| TOTAL | 318 | 1 | 11 | <u>330</u> |

The south lot has 76% of the total station parking supply. Station driveway traffic counts show that the percentage of station traffic using the south lot driveways is generally in proportion to its percentage of the parking supply. Figure 5 shows the results of the SEPTA lot counts.

Figure 5. Weekday occupancy of SEPTA parking lots at Malvern station.



The parking occupancy counts indicate that SEPTA parking is over 80% full by 8:00 am and fills to near capacity from late morning through mid-afternoon. At 6:00 pm the SEPTA lots are about half full, and by 8:00 pm occupancy drops to about 20%. It appears that parking occupancy is lower on a Friday than on other weekdays.

This parking availability in the late afternoons, evenings, overnights and weekends, provides a valuable opportunity to share commuter parking with residential, entertainment, retail and restaurant land uses, thereby reducing the amount of parking that needs to be developed in the Borough.



Existing parking regulations at train station lots

MUNICIPAL LOT PARKING

Malvern Borough has three municipal parking lots.

The lot at East King Street and Channing Avenue, on the north side of King Street between Malvern Pizza and Wolfe's Baldwin Brass, is a two-hour lot. This lot has 26 spaces total including one handicap space. No permits are issued.

The Burke Park lot, on the east side of Warren Avenue just south of King Street, is a four-hour lot. This lot has 55 spaces total including two handicap spaces. A limited number of permits are issued. The permit sticker must be displayed on the vehicle bumper next to the registration. Currently, 45 permits are issued as follows:

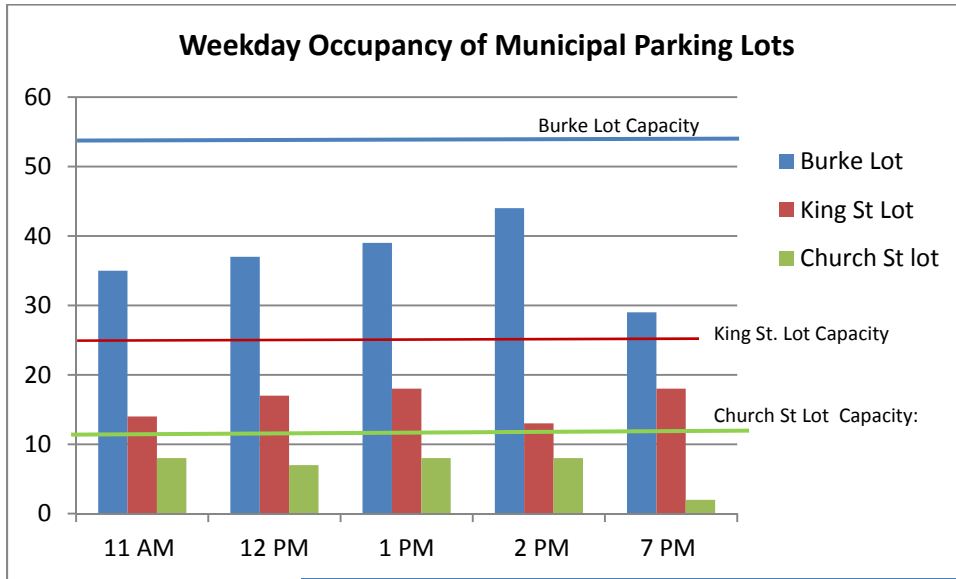
- Hunt Engineering – 15
- Other businesses on King Street – 12
- Residents – 18

The Church Street lot, on the southwest corner of East King Street and Church Street, is a three-hour lot. It has 11 total spaces including two handicap spaces. No permits are issued.

People that have a parking permit can park in any of the municipal lots. The permit is renewed annually and there is a \$10.00 fee.

Figure 6 shows the occupancy of the municipal lots. Lot occupancy was counted hourly from 11:00 am – 2:00 pm and an evening observation was also made. The individual lots reached a maximum occupancy of between 70% and 80%. It is noted that comments heard during public involvement indicate that Friday night is a problem time for parking.

Figure 6. Weekday occupancy of municipal parking lots.



ON-STREET PARKING

The existing posted parking regulations on streets in the vicinity of Malvern Station are shown in Table 3. During the walking tour conducted with Study Advisory Committee members, it was observed that although King Street parking ends at Powelton Avenue, the width of King Street remains the same. It would be possible to provide more on street parking spaces further west on King Street. Additionally, consolidating driveways of the Malvern Shopping Center would allow more on street spaces to be provided. The Malvern Borough Revitalization Plan identified a similar opportunity.

On-street parking permits are issued to residents in two-hour limit areas of Monument Avenue and Powelton Avenue. Currently 19 resident permits are issued. Permits are issued only to those residents of these two streets who do not have a driveway.

On-Street Parking Occupancy

On-street parking counts were conducted within two blocks of the station hourly from 11:00 am – 2:00 pm on a Wednesday in October, 2012. Informal observations of street parking occupancy were also made during the numerous visits to the area over the course of the study.

Comments received from the public indicate that train station parking occurs on residential streets. On-street parking counts were taken on streets within two blocks of the train station. King Street, both sides of Monument Avenue between Warren and Powelton Avenues, and the east side of Powelton Avenue are posted with two-hour time limits. Other streets are not time limited. There are no parking meters. On King Street and Powelton Avenue, the individual parking spaces are marked with pavement markings. Other streets are not marked.

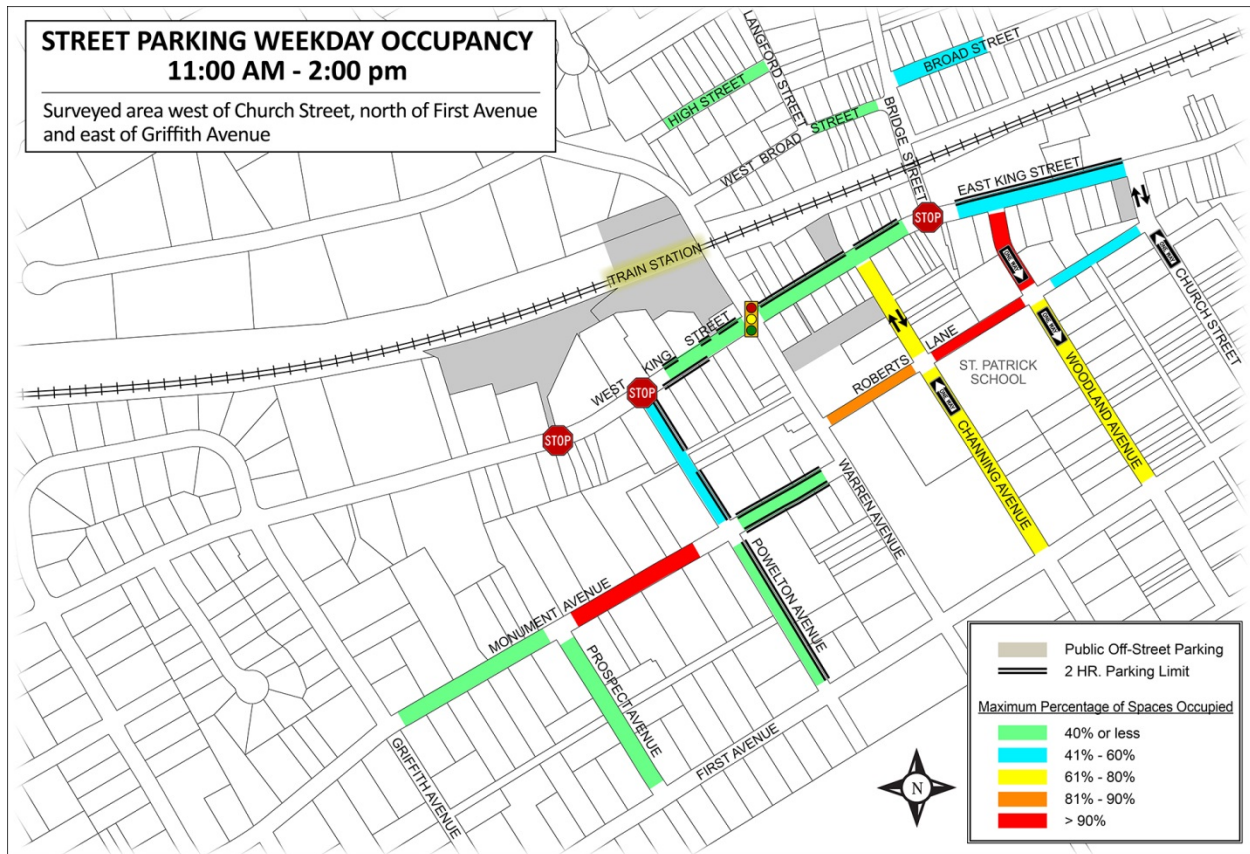
There were always spaces available on King Street and in the two-hour limit parking areas on Powelton Avenue and Monument Avenue during the study observations. The maximum observed parking occupancy on streets within two blocks of the train station is shown in Figure 7.

Table 3. On-street parking regulations.

| STREET | Block | | Posted Regulation | |
|----------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| | From | To | East or North side | West or South side |
| W. King Street W. King Street E. King Street | west of Powelton Powelton Warren Channing Bridge Woodland | Warren Channing Bridge Woodland Church | No Parking Anytime 2 Hr 2 Hr 2 Hr No Parking Anytime 2 Hr 7am – 6pm Mon. - Fri. | No Parking Anytime 2 Hr No Parking Anytime No Parking Anytime No Parking Anytime No Parking Anytime |
| Roberts Ave. | Warren Channing Woodland | Channing Woodland Church | No Parking Anytime No Parking Anytime No Parking Anytime | unrestricted unrestricted unrestricted |
| Monument Ave. | Prospect Powelton | Powelton Warren | unrestricted ¹ 2 Hr Parking 8am – 6pm ³ | unrestricted ² 2 Hr Parking 8AM - 6PM |
| First Ave. | Prospect Powelton Warren | Powelton Warren Channing | unrestricted unrestricted ⁴ unrestricted | unrestricted unrestricted unrestricted |
| Powelton Ave. | King Monument | Monument First Ave | 2 Hr Parking 8am – 6pm 2 Hr Parking 8am – 6pm | No Parking Any Time unrestricted – painted spaces |
| Channing Ave. | King Roberts | Roberts First Ave. | unrestricted unrestricted | No Parking This Side unrestricted |
| Woodland Ave. | King Roberts | Roberts First Ave. | unrestricted unrestricted | unrestricted unrestricted |
| Longford Ave. | Broad | High | unrestricted | No Parking This Side |
| High Street | Longford | dead-end | unrestricted | unrestricted |
| Broad Street | Warren Longford Bridge | Longford Bridge Miner | No Parking 7am - 6pm Weekdays unrestricted unrestricted | No Parking This Side No Parking This Side unrestricted |

NOTES

- ¹ 'No Parking Between Signs' restricts parking for about 100 feet west of Powelton
- ² 'No Parking' posted from Powelton to first driveway (about 100 feet)
- ³ 'No Parking' posted for about 50' west of Warren
- ⁴ 'School Bus Parking only 7:30 - 8:30am, 2:45 - 3:30pm' near Warren Avenue

Figure 7. Station area on-street weekday parking occupancy.

During the walking tour conducted with Study Advisory Committee members, it was observed that although King Street parking ends at Powelton Avenue, the width of King Street remains the same. It would be possible to provide more on street parking spaces further west on King Street. Additionally, consolidating driveways of the Malvern Shopping Center would allow more on street spaces to be provided. The Malvern Borough Revitalization Plan¹ identified a similar opportunity.

On-street parking permits are issued to residents in two-hour limit areas of Monument Avenue and Powelton Avenue. Currently 19 resident permits are issued. Permits are issued only to those residents of these two streets who do not have a driveway.

It is apparent that some train station parking is occurring on the street, and that street parking occurs on the south side of the tracks but not the north side. This parking appears to occur on Powelton Avenue between Monument and First Avenue, on Monument Avenue between Powelton Avenue and Prospect Avenue, and on Roberts Avenue. These are areas with no posted time limit. It is also known that some downtown employees, including post office employees, park on these same residential streets. Therefore the amount of street parking related to the train station can only be estimated. Curb space on Monument Avenue west of Prospect Avenue and on Prospect Avenue is largely empty despite having no time restrictions, indicating that station parking is not occurring there. Based on street observations as well as the rider survey, it is estimated that roughly 30 to 40 train rider cars are parked on the street.

¹ Malvern Borough Revitalization Plan, 2009 Update, Urban Research and Development Corporation, September 2009

Complaints received about parking on residential streets were largely concentrated on Monument Avenue. The complaints about parking on residential streets appear to have more to do with drivers parking too close to driveways and intersections, parking in front of someone's house, or the restriction in two-way traffic flow when cars are parked directly opposite on both sides of the street. Because Monument Avenue is 30 feet wide, when cars are parked on both sides, drivers traveling in opposite directions must yield to each other. These issues can be addressed by parking management actions such as posting parking regulations to set back parking from intersections, or to prohibit or time limit parking on one side of the street.

Many people have commented that there is not enough parking on Friday nights. Malvern's restaurants and bars are concentrated on King Street. Business owners in the Malvern Shopping Center say the shopping center lot is full of Anthony's Restaurant customers on Friday.

One conclusion from the parking study is that the King Street area experiences its peak parking demand during the evening, particularly on Fridays and Saturdays, due to bar and restaurant demand. Development of new restaurants is also inhibited by inability to meet zoning requirements for parking. However, this demand is not sufficient to support a new parking facility. The SEPTA parking lots at the Malvern station are largely empty during the evenings and weekends. It is recommended that Malvern Borough pursue an agreement with SEPTA that would allow public parking to occur in the train station lots during off-peak times.

The Borough had previously suggested improvements at the Malvern Shopping Center, including a reconfigured parking lot with more spaces and fewer driveways, as well as adding entrances from the rear of the stores for direct customer access from the train station. The driveway consolidation would also allow more on-street parking spaces. The shopping center owners were not interested in making changes at that time.

SEPTA will most likely not construct a new stand-alone parking facility at Malvern to increase ridership. SEPTA could respond cooperatively to a development driven by others that involved some parking component. Cooperation would also be needed from Amtrak, the owner of the station property. Funding is a significant concern for any parking facility; a funding partnership would be needed.

PennDOT and Amtrak are funding improvements at Keystone Line stations, including Paoli and Exton. Ability to get funding for construction of parking at Malvern Station from those partners would depend on the strategic importance of Malvern relative to other stations.

PARKING CONCLUSIONS

- Existing parking is sufficient most of the time.
- There is not enough additional demand to warrant construction of a garage.
- To address occasional shortages, the study recommends making arrangements with SEPTA for shared parking outside station peak hours, particularly on Friday and Saturday evenings.
- King Street on-street parking could be provided further west to obtain a few additional spaces. Spaces in this area would not need to be time limited. More on-street spaces would be obtained if the shopping center driveways were consolidated.

TRANSPORTATION ASSESSMENT

KING STREET

King Street within the study area has one travel lane in each direction and parking on one side of the street. Backups occur on King Street during the commuter peak hours. In the morning peak, traffic on eastbound King Street traffic is observed to back up from Bridge Street to Powelton Avenue. The morning bottleneck location is the unsignalized intersection of King Street and Bridge Street. This T intersection is controlled by an all-way stop. In the evening peak, traffic backs up on Bridge Street approaching King Street as well as on westbound King Street from Warren Avenue to east of Bridge Street. The evening bottleneck location is the signalized intersection of King Street and Warren Avenue.

The traffic impact study conducted for Eastside Flats² provided data on traffic volumes on King Street and at the King Street intersections with Warren Avenue and Bridge Street. That study noted that “without improvement, traffic will be approaching capacity on at least one approach of the signalized intersection of King Street and Warren Avenue and at the unsignalized intersection of King Street and Bridge Street.” The report also noted that the traffic delays could be improved by striping left turn lanes on King Street at Warren Avenue and at Bridge Street and signalizing the intersection of King and Bridge Streets. However, this would result in the loss of at least 26 on-street parking spaces on King Street, as well as removal of the adjusted curb line that provides extra sidewalk space in front of the Flying Pig restaurant.

The Borough appropriately chooses not to widen King Street or remove on-street parking. It is likely that a significant portion of peak hour traffic is traveling to the Great Valley commercial center or to the regional highways of US 30, US 202, or the Pennsylvania Turnpike. This traffic is funneled through Malvern due to limited railroad crossings. The limit on traffic capacity acts as a discouragement to major growth in regional traffic using this route through Malvern.

MALVERN STATION

New counts were conducted for this study at the driveways to the SEPTA station in October 2012 in order to determine the volume and direction of approach of station traffic. Malvern station generates between 240 and 300 vehicle trips in the peak hours of station traffic. The AM peak hour of station traffic occurs about 30 to 45 minutes before the peak of adjacent street traffic and does not appear to be a factor in the backups noted previously. See more information in Table 4.

Table 4. Malvern station trip generation.

| Period | IN | OUT | TOTAL |
|-----------------------------------|-----|-----|------------|
| 6:30 AM – 9:00 AM | 353 | 155 | 508 |
| AM peak hour 7:00 AM – 8:00 AM | 213 | 76 | 289 |
| 3:30 PM – 6:00 PM | 126 | 299 | 425 |
| PM peak hour 5:00 PM – 6:00 PM | 56 | 187 | 243 |

The turning movements at the driveways indicate the direction of approach and departure. As shown in Table 5, the AM peak entry and PM peak exit counts indicate that approximately half of station trips are oriented to the west on King

² Traffic Impact Assessment, East King Street Redevelopment. Heinrich & Klein Associates, Inc., July 24, 2008.

Street, about 40% to the south on Warren Avenue or east on King Street, and about 10% to the north on Warren Avenue.

Table 5. Malvern station peak hour trip distribution.

| DIRECTION OF APPROACH | AM | | PM | |
|--------------------------------------------------------------------------------------------------|---------------|---------------------|---------------|---------------------|
| | AM Peak Entry | | PM Peak Entry | |
| | Volume | % of total AM entry | Volume | % of total PM entry |
| From west on King Street turning left into King Street driveways | 106 | 50% | 16 | 29% |
| From east on King Street or from south on Warren Ave., turning right into King Street driveways | 57 | 27% | 14 | 25% |
| From east on King Street or from south on Warren Avenue turning left into Warren Avenue driveway | 21 | 10% | 14 | 25% |
| From east on Broad Street going straight into Warren Avenue driveway | 10 | 4% | 3 | 5% |
| From north on Warren Avenue turning right into Warren Avenue driveway | 19 | 9% | 9 | 16% |
| TOTAL ENTRY | 213 | | 56 | |
| DIRECTION OF DEPARTURE | AM Peak Exit | | PM Peak Exit | |
| | Volume | % of total AM exit | Volume | % of total PM exit |
| | Volume | % of total AM exit | Volume | % of total PM exit |
| Turning right out of King Street driveway to west | 24 | 32% | 91 | 49% |
| Turning left out of King Street driveway to east or south | 24 | 32% | 63 | 34% |
| Turning right out of Warren Avenue driveway to south or east | 27 | 35% | 9 | 5% |
| Straight out of Warren Avenue driveway to Broad Street | 1 | 1% | 3 | 2% |
| Turning left out of Warren Avenue driveway to north | 0 | 0 | 21 | 11% |
| TOTAL EXIT | 76 | | 187 | |

PEDESTRIAN ACCESS

Pedestrian access from King Street to the Malvern station was greatly improved by a SEPTA station project completed in 2011. The project constructed a separate pedestrian tunnel under the tracks to the westbound side, ADA access to the eastbound and westbound platforms, and sidewalk along Warren Avenue to the station's north parking lot. Pedestrian access from the station to areas further north along Warren Avenue remains unimproved.



North side of railroad underpass before and after station improvements.

Some workers at the Malvern Industrial Park ride the train to get to and from work. There is no sidewalk along North Warren Avenue for pedestrians walking between the train station and the industrial park. In addition, a fence around the SEPTA parking lot prevents pedestrians from walking to Pennsylvania Avenue through the parking lot. Passengers were observed getting off the westbound train at Malvern station and walking west along the railroad right of way to get to the industrial park. Pennsylvania Avenue slopes up from Warren Avenue and becomes more level with the railroad track. Pedestrians can reach the industrial park without walking down Warren Avenue and back up Pennsylvania Avenue.



Some train passengers from the westbound train platform walk west along the tracks to the industrial park.



A fence prevents industrial park pedestrians from reaching the station through the parking lot



There is no sidewalk on North Warren Avenue between the train station and Pennsylvania Avenue. The grade on this portion of Warren Avenue is steep: about 10%.

Malvern Borough has not previously requested that Chester County Planning Commission include sidewalks on North Warren Avenue in its Transportation Improvements Inventory (TII). Sidewalks on the west side of North Warren Avenue from East Broad Street to Quaker Lane should be added to the TII.

The traffic signal at King Street and Warren Avenue has no Walk/Don't Walk signals. Signal indications are located for vehicles; many cannot be seen by pedestrians depending on their location and direction of travel. For pedestrian visibility, a signal indication should be located at each end of each crosswalk.

At King Street and Warren Avenue, signals for pedestrians should be added to the existing signal poles as follows:

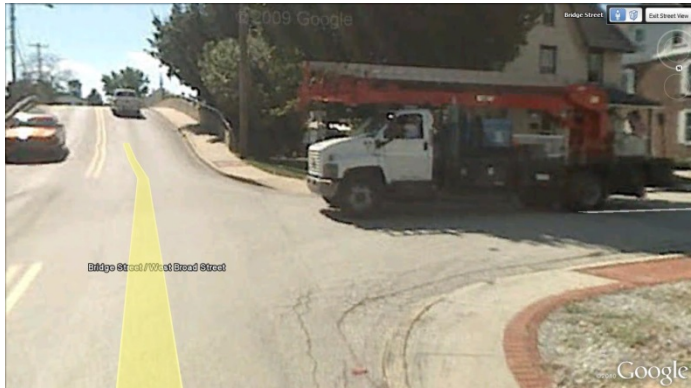
- Northeast corner, for north crosswalk
- Northwest corner, for west crosswalk
- Southeast corner, for east crosswalk
- Southwest corner, for south crosswalk



A pedestrian at the crosswalk across the south leg of Warren Avenue at King Street has no signal indication looking west. When is it safe to walk?

TRUCK TRAFFIC

The Malvern Industrial Park businesses located on Pennsylvania Avenue and on Quaker Lane generate some truck traffic. Trucks are not able to use King Street to travel to the industrial park because of the limited vertical clearance at the railroad underpass. Trucks are also not able to approach from North Warren Avenue because of a posted 5-ton weight limit on North Warren Avenue in East Whiteland Township. Therefore, trucks travel to the industrial park via Old Lincoln Highway, Bridge Street, and Broad Street, and turn right on Warren Avenue to travel to Pennsylvania Avenue or Quaker Lane. Trucks exiting the industrial park make the reverse maneuvers.



Truck turning from West Broad Street onto Bridge Street.

In 2010, Malvern Borough and East Whiteland Township completed a feasibility study of extending Malin Road to Pennsylvania Avenue from its current terminus near US 30. This new road connection would provide a route for trucks from the industrial area to the major highways and improve access to Malvern station from US 30. The new road connection was determined to be feasible, and it is identified in the Malvern Borough Comprehensive Plan and the CCPC TII for 2013. However, funding for design and construction for this approximately \$20 million project has not been identified.

Without the proposed Malin Road extension, trucks cannot be totally removed from residential streets because there is no feasible alternative route. However, it may be possible to mitigate some of the impacts of trucks. For the near term, it is suggested that Malvern Borough pursue actions to:

- Identify the truck impacts that most concern residents
- Survey individual industrial park businesses about their shipment and delivery vendors and vehicles
- Attempt to negotiate changes to reduce impacts that residents say most affect them (e.g. changing tractor trailer use to smaller trucks, modifying hours of operation, etc.)

DEVELOPMENT TRAFFIC

Any redevelopment of properties on the TOD study area will generate additional traffic. This TOD study did not include a detailed traffic impact analysis. However, an assessment was made of the effect potential TOD north of the railroad tracks would have on traffic at the intersection of King Street and Warren Avenue. The number of total peak hour trips generated by TOD was determined based on Institute of Transportation Engineers data for residential apartments, with a 10% reduction based on assumed transit use. See Table 6.

Table 6. Total peak hour trips generated by residential apartment development of different sizes.

| | AM peak hour trips | | | PM peak hour trips | | |
|--------------|--------------------|-----|-------|--------------------|-----|-------|
| Size (units) | In | Out | Total | In | Out | Total |
| 200 | 18 | 74 | 92 | 72 | 40 | 112 |
| 400 | 36 | 148 | 184 | 144 | 79 | 223 |
| 600 | 54 | 221 | 275 | 216 | 119 | 335 |

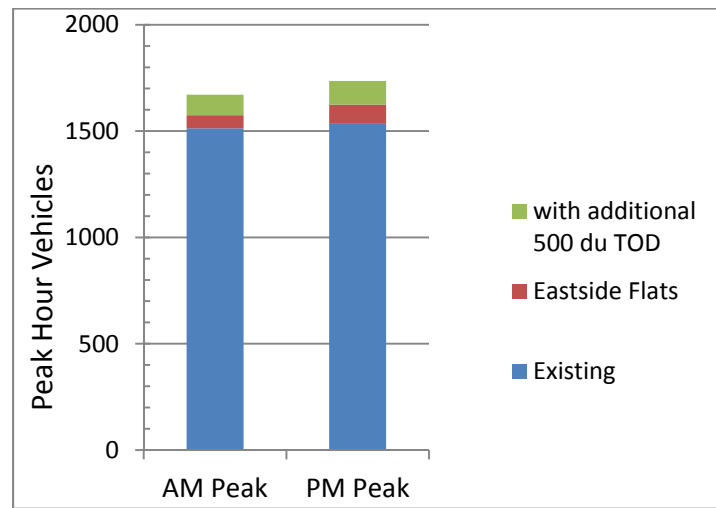
Note: A 10% reduction in trips is assumed because of proximity to Malvern station.

Not all TOD traffic would travel through the intersection of King Street and Warren Avenue. It is estimated that 60% of TOD traffic would travel north toward the regional highways of US 30, US 202 and the Pennsylvania Turnpike or to employment in the Great Valley corporate center. The new traffic signal installed at the intersection of Old Lancaster Road and Old Lincoln Highway allows traffic to travel north on North Warren Avenue to reach these destinations. Improvements would be required at the intersection of Pennsylvania Avenue and Warren Avenue. It would be desirable to upgrade the physical condition of North Warren Avenue in Malvern and East Whiteland Township.

It is estimated that approximately 40% of TOD traffic would travel through the intersection of King Street and Warren Avenue. As an example, a 500-unit TOD north of the station would increase the total peak hour traffic volume through the intersection of King Street and Warren Avenue by approximately 7% compared with conditions without TOD.

Incremental traffic at the intersection is illustrated graphically for a 500-unit TOD. See Figure 8. Preliminary analysis indicates that the effect on delay at the traffic signal would be to increase average peak hour delay per vehicle by about four seconds compared with conditions without the TOD. Because this is only a cursory analysis, a detailed traffic impact study should be required at the time of a specific proposed development.

Figure 8. Total peak hour traffic volume at the intersection of King Street and Warren Avenue.



TRANSPORTATION ASSESSMENT CONCLUSIONS

- Peak hour backups occur at King Street and Warren Avenue and at King and Bridge Streets.
- Large trucks create problems on Bridge and Broad Streets, directly affecting about 40 residences.
- Some development can be accommodated north of the train station with improvements to existing roadways. For a large development, the extension of Malin Road from US 30 to Pennsylvania Avenue is highly desirable.
- Pedestrian signals should be added to the traffic signal at King Street and Warren Avenue.
- Sidewalk is needed along North Warren Avenue north of the station.

MARKET STUDY

Vantage Point Development Advisors (VPDA) performed a market analysis of land uses that may be supported in the TOD focus area over the next five years. The analysis focused primarily on office and residential opportunities. Retail opportunities also were reviewed, but limited to opportunities that support office and residential uses as well as complement (rather than compete with) the existing commercial district. The purpose of the market analysis was to identify the existing and future supply and demand for the Malvern market area and to conduct an economic impact evaluation to determine if potential access improvements such as those envisioned in the Malin Road Extension study could be feasibly funded. The full market study report is contained in a separate document.

RESIDENTIAL

The residential market analysis has focused on a profile of the households within the identified trade areas that likely prefer multifamily residential living near the transit station. The primary market analysis area is within a 10-minute drive of the station and the secondary market analysis area is within a 30-minute drive to the west. The analysis projected the change in households in the primary and secondary market areas by various income profiles, examined other competitive residential developments, and determined the likely demand for residential units around the transit station.

Housing demand within the Malvern study area is estimated at 800 units over the next 10 years. This includes Eastside Flats. The absorption rate is approximately 80 units per year.

High residential density (40-50 dwelling units per acre) is needed to make redeveloping the existing commercial/light industrial properties worthwhile. Property owners will not recoup redevelopment costs at lower densities; it would make more economic sense for them to keep getting income from current commercial/light industrial uses.

RETAIL

Future growth in retail sales will be dependent on attracting additional households in the immediate area. Estimated potential new retail is approximately 50 square feet (sf) per new household. Parking is needed for customers from outside the immediate walkshed in order to support new retail space.

OFFICE

Malvern is within the Exton/West Chester submarket (including Great Valley), which has over 850,000 sf of available office space. The annual net absorption is less than 10,000 sf. Less than 100,000 sf of speculative office is under construction in the entire Philadelphia metropolitan office market. New office buildings that are being built are for a particular user (build-to-suit).

During this study two new build-to-suit office facilities were completed in the study area: a new 300,000-sf headquarters for Endo Pharmaceuticals at Trammel Crow's Atwater campus (about 2.5 miles north of the Malvern train station) and a new 45,000-sf headquarters for CubeSmart (less than a mile north of the station). The developer of the CubeSmart project stated at a public meeting that there is an increased demand for office development at train stations with adequate access. Some members of the Study Advisory Committee expressed a strong preference for office-centered TOD in the LI-zoned area.

Under current market demand, there is potential for one or two build-to-suit buildings of about 20,000 sf each in the area within a half-mile radius of the train station. The users would most likely be existing tenants in the market area, or establishments who have a specific desire to be within the area. The Pennsylvania Avenue area would be a likely location. In lieu of or in addition to build-to-suit, potential office development in the TOD study area is likely to consist of minor storefront offices.

MARKET STUDY CONCLUSIONS

Current market demand is for residential uses. Aside from minor storefront offices, new office would depend on attracting build-to-suit business. Estimated total commercial potential (retail and office) is about 70,000 square feet. Additional retail would likely be located along King Street rather than in the new TOD area north of the railroad.

Economic Impact

Assumption:

- 800 households and associated residential parking
- 40,000 sf retail
- 30,000 sf office

Assuming all of the incremental property tax revenues were allocated to 20-year tax exempt bonds (at an assumed 4.5% interest rate) to support capital improvements, approximately \$8.4 million in capital improvements could be amortized over a 20 year timeframe.

The primary public infrastructure improvement discussed during the course of the study has been the Malin Road extension, which would cost between \$15 and \$20 million.

All development will not come on line at the same time so new revenues will not all be immediately available.

The analysis does not consider potential additional cost of services for new residents.



Existing commercial/light industrial building on Pennsylvania Avenue.



Eastside Flats under construction, August 2013.

ALTERNATIVE CONCEPTS

The existing zoning north of Malvern Station is LI, Limited Industrial. Residential or retail use is not currently permitted in an LI district. Office is permitted, with a 50-foot maximum building height. There is an opportunity to create a mixed use development “down the hill,” visually screened from King Street. Properties are privately owned and have active office and industrial uses. Because the entire TOD area is privately owned, the incentive for change is the owners’ opportunity for increased income. The market study has determined that land values can be significantly increased for the privately-owned parcels within the study area if zoning changes were considered to accommodate a redevelopment threshold of approximately 50 dwelling units per acre.



Existing buildings in the TOD study area north of railroad tracks are low height, flex-light industrial with large paved areas.

TOD CONCEPT PLANS

The first step developing a concept for the TOD area north of the tracks was to determine whether 50 dwelling units per acre might reasonably be achieved and how many levels would be required. As noted above, 50 units per acre is the approximate density that the market analysis determined was necessary to make redevelopment of the existing properties financially worthwhile.

Typical setbacks and lot coverages were assumed. Initial building footprints were drawn, assuming that each parcel is developed independently. The number of units per floor was calculated, using a floor area per unit of 125% of actual unit size to account for hallways, elevators, stairs, etc. The initial parking assumption used was one space per unit. The initial site analysis showed that a density of 50 dwelling units of about 1,100 sf per unit can be achieved in three levels over one level of parking. Some parcels are too small to realistically be developed independently. Typical building floor-to-floor heights were established in order to develop building elevations.

The assumptions used in development of the concept plans are listed below.

| | |
|----------------------------|------------------------------------------------------------------------|
| Front setback: | 15 feet |
| Side yard setback: | 5 feet |
| Rear yard setback: | 25 feet |
| Maximum Building Coverage: | 75% |
| Maximum Lot Coverage: | 90% |
| Parking for residential: | 1 space per unit |
| Driveways: | 20 feet wide, with shared access where possible |
| Sidewalks: | along west side of Warren Avenue and both sides of Pennsylvania Avenue |

Floor-to-floor heights:

- Residential 11 feet
- Office 14 feet
- Parking first level 11.5 feet, other levels 10.5 feet

Resulting building heights:

- One level of parking below three floors residential 45 feet
- Two levels of parking below four floors residential 66 feet
- Two levels of parking below two floors office 50 feet

Street parking could be permitted in the following manner:

- Warren Avenue (existing paved width 24 feet) could be widened on the west side to provide parking in a recessed curb area, mainly for passenger loading and front door deliveries.
- Pennsylvania Avenue (existing paved width 30 feet), could have parking on one side, or with widening to 36 feet could have parking on both sides.

The market demand study indicated a demand for 800 units over the next ten years. Eastside Flats plus some single family housing development will add approximately 200 units. A TOD on the north side of the railroad tracks was assumed to contain up to 600 multifamily dwelling units, assuming housing development in the Borough was directed to the TOD area.

Developing the ten parcels closest to the train station (a total of 12 acres) with the criteria outlined above yields approximately 600 units.

Several variations of the basic concept are possible:

- Each parcel developed independently, with its own on-site parking.
- Consolidation of some parcels near the station, each site containing its own parking.
- Consolidation of some parcels near the station, with a separate parking structure and some shared parking, including parking for the station.

A 600-unit TOD could take several alternative forms:

- Three- and four-story, similar to Eastside Flats. The most cost effective development is three or four levels over one or two levels of parking, with the parking being at grade. Taller buildings involve more costly types of construction.
- Stepped height, with taller buildings closest to the station. The greater height allowance would be based on a fixed distance from the station, in order to avoid an issue of spot zoning. The suggested criteria to be met in order to qualify for a greater height allowance would be that any portion of a subject property be located within 500 feet of the Warren Avenue railroad underpass.
- Concentrated development, with the TOD confined to a smaller area closest to the station and with taller buildings. The rationale for this alternative is to minimize the walking distance to the station and to town, and to concentrate the parking supply in a garage that could include shared parking for the station.

Perspective renderings were drawn of the view from King Street at Warren Avenue. Pennsylvania Avenue slopes up from Warren Avenue, so that buildings located further west will be more visible over the tracks. A visualization of alternative forms is shown in the massing diagrams and perspective drawings in Figures 9, 10, and 11. These figures illustrate a variation with some lot consolidation and some shared garage parking,

Figure 9. Four-level development alternative.



Figure 10. Stepped-height development alternative.



Figure 11. Concentrated development alternative.



At the public workshops, some residents expressed concerns about the effect of growth on the character of the borough. Under a “No Build” scenario, the borough’s population will still grow from development already under construction.

A lower growth TOD scenario from the full market demand would likely include buildings of three and four levels, but with fewer parcels developed. Table 7 below indicates the anticipated change in housing and population with alternative development.

Table 7. Borough of Malvern population and housing with alternative development scenarios.

| | No Build | | Scenarios for TOD | |
|------------------------------------------------------------------------------|-------------|--------------------------|--------------------|--------------------|
| | 2010 census | Eastside Flats 190 units | with TOD 200 units | with TOD 600 units |
| Population | 2998 | 3283 | 3583 | 4183 |
| Average persons per household * | 2.22 | 1.5 | 1.5 | 1.5 |
| % increase over Year 2010 population | - | 10% | 20% | 40% |
| | | | | |
| Total Dwelling Units | 1432 | 1628 | 1828 | 2228 |
| % increase over Year 2010 Dwelling Units | | 14% | 28% | 56% |
| Number of Multifamily Dwelling Units | 503 | 693 | 893 | 1293 |
| % Multifamily Dwelling Units | 35% | 43% | 49% | 58% |
| Change in owner occupied units if all new multifamily development is rental: | | | | |
| % Owner occupied dwelling units | 59% | 52% | 47% | 38% |
| % Rental dwelling units | 41% | 48% | 53% | 62% |

*Note: 2010 census percentage of householders living alone was 35%; assumed 50% for new multifamily units

FUNDING

Funding for transportation improvements is central to the Borough's consideration of TOD. Funding will need to come from a combination of state funding, grants, and developer contributions.

Tax Increment Financing

Tax increment financing (TIF) may be a strategy for raising funds toward transportation improvements. By itself, TIF will not raise sufficient funds to construct the Malin Road extension.

Tax-increment financing works as follows:

- An estimate is made of the increase in tax revenue resulting from new development. The loan amount that can be financed with that revenue is calculated.
- Borough Council decides whether or not to approve the TIF.
- The improvements to the properties increase their value, and the development projects start producing more revenue, in the form of property, wage, sales, use and occupancy and other taxes.
- The Borough collects all of the taxes produced from the properties, but only keeps the amount the paid prior to the creation of the TIF, called the base value.
- The difference is paid to the lender.

If TIF works as intended, the property values rise, and the Borough receives more tax revenue. During the loan period the Borough collects only the base value, and after the TIF ends, it stands to collect much more.

Developers have sought TIFs as part of the financing for their developments to bridge a financing gap for projects that simply can't be built without it. Municipalities agree to participate in the TIF when they want that development to happen. The municipality, in cooperation with the developer of an identified parcel, settles on a dollar amount which represents the amount of would-be tax revenue that can be diverted to project costs over the ensuing twenty years. The developer secures a loan from a private source for the amount of the TIF. In this instance the TIF subsidizes the developer by essentially allowing him to keep his taxes to use toward his loan payment. If the development doesn't generate the expected revenue growth, the developer, not the Borough, is responsible for paying off the balance of the private loan when the TIF period ends.

If the TIF is intended to be used for a public project rather than toward the development cost, the developer would finance his project himself. The municipality could utilize a "virtual" TIF, issuing a bond to finance the public project, but treating the incremental tax revenues as if they had really created a TIF. The municipality's full faith and credit backs the loan if revenue increases don't meet the forecast. All development will not come on line at the same time, so new revenues will not all be immediately available.

Transportation Impact Fees

Adopting a transportation impact fee ordinance involves complying with certain regulations and completing specific studies, which are detailed in PennDOT Publication 639, "Transportation Impact Fees, a Handbook for Pennsylvania's Municipalities."

Transportation impact fees are worthwhile under certain conditions and may not be worthwhile under others. Impact fees cannot be used to fund improvements that correct existing deficiencies; they are meant to fund improvements needed by overall future development that no single development could be held accountable for. Publication 639 states: "As a general rule, for impact fees to be an effective funding tool, potential should exist for development of at least 50 to 100 residential units per year and approximately 50,000 to 100,000 square feet of non-residential development per year for a minimum of five years." This appears to be more development than Malvern residents are prepared to see in the Borough. It would be essential to partner with East Whiteland Township. The amendments (MPC Section 508-A) from Act 68 of 2000 enable municipalities to adopt joint transportation impact fee ordinances, however each of the participating municipalities must have adopted a joint comprehensive plan prior to adopting joint impact fees.

CONCLUSIONS

The Malvern Transit Oriented Development Study included a number of technical analyses and a public involvement program to determine the feasibility of and interest in TOD adjacent to the Malvern station.

The study took place during construction of Eastside Flats, a 190-unit apartment development with retail that is the largest single development to occur in the Borough in recent memory. Many community members expressed concern that until the impacts of that development are known, they are not comfortable with planning for another, potentially larger development. There was no consensus on the form of TOD, or in fact whether there should be any TOD at all. The Borough is not ready to move forward with TOD at this time.

Therefore, this report documents the results of the studies conducted and the alternative concepts that were presented for the area north of the station. Studies that were conducted as part of this effort included:

- Questionnaire survey of SEPTA passengers at the Malvern station
- Traffic counts at the station driveways
- Parking demand study with occupancy counts at the station parking lots as well as at three municipal lots and on the streets within two blocks of the station
- Market demand study to determine the market potential for development in the Malvern TOD area
- Review of existing zoning ordinances
- Development of guidelines for a TOD overlay ordinance

This information provides a foundation for any future consideration of development or TOD overlay district in the area of the Malvern station. The report also includes a number of recommendations that can be implemented independently of TOD to improve the Borough.

A conclusion from the public involvement process is that any future effort to form a TOD will need to have more extensive public outreach. Despite the public workshops and the Borough's efforts to promote them, many people felt they were not informed. It may require that individual notifications be sent to all homeowners and that email alerts be sent in advance of all public meetings dealing with the subject. A charrette, which is a collaborative design event that fosters community ownership of the resulting plan, could also be considered.



Example of a TOD charrette.

With the market demand shown by this study, there will likely be continual pressure to respond to development and redevelopment applications. Malvern Borough should take a proactive role to determine what fits best into the community and how to best craft ordinances to accomplish this.

APPENDICES

MALVERN TRANSIT ORIENTED DEVELOPMENT STUDY
Public Workshop 2 survey response

| Row Labels | Count of How would you describe yourself? | Descr. 2 |
|--------------------|-------------------------------------------|------------------------------------------------|
| Business owner | 4 | |
| Other | 1 | |
| Resident | 29 | 5 are also business owners or community /civic |
| Grand Total | 34 | |

| Row Labels | Count of Did you attend the first public workshop? |
|--------------------|----------------------------------------------------|
| No | 26 |
| Yes | 8 |
| Grand Total | 34 |

| Row Labels | Count of How did you hear about this workshop? | |
|-----------------------------|------------------------------------------------|--------------------------------------------------|
| Email or mail notice | 11 | 2 people also saw in media, 2 also saw in poster |
| Friend or civic association | 8 | |
| Media | 8 | Media: One person also saw in poster |
| Other | 2 | |
| Poster | 5 | |
| Grand Total | 34 | |

| Row Labels | Count of 3. How helpful and informative were the team members and presentation materials? |
|--------------------|-------------------------------------------------------------------------------------------|
| Moderately helpful | 9 |
| Very helpful | 24 |
| (blank) | |
| Grand Total | 33 |

| Row Labels | Count of 4. Based on what you heard, would some type of TOD be good for the Borough? |
|-----------------------|--------------------------------------------------------------------------------------|
| Need more information | 5 |
| No | 10 |
| Yes | 16 |
| (blank) | |
| Grand Total | 31 |

| Row Labels | Count of 5. What are the two most important benefits a TOD could offer? | |
|------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------|
| Better utilization of SEPTA service | 9 | |
| Improved appearance of retail properties | 4 | see Tab sheet question 5 for 2nd benefit and |
| New residents or employees increase business customer base | 1 | |
| Other | 3 | |
| Tax revenue for the borough | 11 | |
| (blank) | | |
| Grand Total | 28 | |

| Row Labels | Count of 6. What is your biggest concern with TOD? | |
|-------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------|
| Change in proportion of multi-family vs single family homes | 2 | WRITTEN COMMENTS |
| Change in the borough's appearance | 7 | 8 - parking |
| More residents generate need for more expanded services | 2 | 5 - traffic |
| Other | 4 | 4 more residents generate need for more services |
| Traffic | 16 | 8 - change in borough's character |
| (blank) | | 1 - change in proportion of renters vs owners |
| Grand Total | 31 | 1 - spending! |
| | | 1 - Bridge Street needs to be for local residents only. |
| | | Malin Rd Extension is a must! |

| Row Labels | Count of 7. If the main redevelopment occurs north of RR tracks, does this change your opinion or concerns? |
|--------------------|-------------------------------------------------------------------------------------------------------------|
| No | 16 |
| Yes | 3 |
| (blank) | |
| Grand Total | 19 |

4. BASED ON WHAT YOU HEARD TONIGHT, DO YOU THINK THAT SOME TYPE OF TRANSIT ORIENTED DEVELOPMENT WOULD BE GOOD FOR THE BOROUGH?

- 1
- 2 Bring in more business for this town, but needs to consider the traffic and parking problems.
- 3 Could be good, but since the option is to take land in use, I don't see a good cost value.
- 4 This development looks just out of proportion with the rest of the town.
- 5 It will bring some revitalization to the borough and businesses.
- 6 It would improve the town look. I am all for it.
- 7 I think the Borough residents should scope out what is acceptable, and then Council should keep that as the maximum.
- 8 There are very few ways to get in and out of town. Due to the railroad, it is already congested not only during peak traffic hours but mid-day.
- 9
- 10 All of the options presented would be much too dense and too high.
- 11 Don't duplicate the mistakes and height of the flats. Limit the height!
- 12 I'm oky with construction along railroad tracks. However, I don't want any trees cut or hills moved.
- 13
- 14 Malin Road connection need to be first.
- 15 I think that development that was large enough in volume to have a significant financial impact would adversely affect the town's feel and even at that volume would not be large enough to build Malin Road extension or other important ----- improvements.
- 16 I think the borough has become stagnant in some ways and new growth will promote additional redevelopment of broken down buildings and storefronts along King St.
- 17 But need to manage the size. I'm not opposed to 4 stories on the north side of the tracks - but nothing larger.
- 18 Not in the form currently presented. I don't believe that any of the historic fabric of the borough was taken into consideration with this plan. I realize that for the economic feasibility of the project this is what it ends up looking like, but I don't think this is what current residents want to see. I am not for this project as presented in any form this evening.
- 19 The Malin Road extension should be mandatory before construction and funded by the developers who want to build on ----- Warren and Pennsylvania Ave. gaged of percentage of acreage, height and occupancy expectation.
- 20 So many questions: School enrollment, environmental issues, traffic, traffic, traffic. Marketing scheme for SEPTA? Construction disruption. If traffic worsened, people will stop coming to Malvern to shop. Has happened in Newtown Square.
- 21
- 22 I think it would further crowd us and destroy the small town charming character of the borough. I am horrified and appalled at the thought of this.
- 23
- 24
- 25 Not as presented today. Infrastructure? There is no ambience in these plans - nothing to enhance the quality of life whatsoever.
- 26 Just restore or rebuild oh-so-sad buildings on King Street!
- 27 The concept of development near the train station deserves our planning and consideration. The question is not if, the question for Malvern is timing.
- 28
- 29
- 30 Absolutely! We fall in the demographic that is in their 30's and don't want a suburb. We want a small town with expanded retail and rail. We moved here for development potential.
- 31 Yes, the demand is there and it could only benefit the residents here.
- 32
- 33 No opinion. I can see both sides. With so many businesses and commercial vacancies in GV and "uptown Worthington." it's hard to foresee the projected demand for the new residents who will presumably work elsewhere along the "mainline." And if they can find employment in Great Valley (eventually), they won't need to use the train which would increase traffic on Warren, Rt. 30: Rt. 29. My general feeling is that the proposed TOD is more than the Borough can handle and more than it needs. I the primary goal is to relieve the traffic congestion, improve bus service and create a "park and ride" near Paoli Pike and Warren.
- 34 Our architectural firm relocated to Malvern (the old Malvern firehouse) in order to be in a town center, TOD and encourage current and future employees better access and family amenities. A dramatic increase in quality of life!

5. IN YOUR OPINION, WHAT ARE THE TWO MOST IMPORTANT BENEFITS A TOD COULD OFFER?

| | |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Better utilization of SEPTA rail service. |
| 2 | New residents bolster community activities and organizations. |
| 3 | |
| 4 | No opinion |
| 5 | Better utilization of SEPTA rail service. |
| 6 | Improved appearance of properties. Better utilization of SEPTA rail service. New residents or employees increase business customer base. New residents bolster community activities and organizations. I am all for it. If anything I can do to support you all, let me know. |
| 7 | New residents increase business customer base. |
| 8 | Better utilization of SEPTA rail service. Not sure this is what would happen. |
| 9 | New residents bolster community activities and organizations. |
| 10 | Rehabilitation of rundown properties on King Street (at Bridge and King). |
| 11 | New residents or employees increase business customer base. |
| 12 | Better property values. Reduced suburban sprawl elsewhere. |
| 13 | No benefit. |
| 14 | Why can't townhouse-type buildings be built instead of over like East Town flats? |
| 15 | Improved appearance of properties. I don't think Malvern needs more people to bolster community activities. Those are vibrant already. And I doubt that adding extra residents - even doubling the town's population would be necessary for our larger businesses or have a significant impact on most of the others. |
| 16 | New residents or employees increase business customer base. |
| 17 | Improved appearance of properties. |
| 18 | New residents bolster community activities and organizations. But again, NOT in this form. As per the Eastside Flats development, we were told that there would be no (or virtually no) children moving in. I can't see that happening here either provided there was a correct assessment. |
| 19 | New residents bolster community activities and organizations. |
| 20 | New residents bolster community activities and organizations. Two opinions are given if a modest project. |
| 21 | More options for beautification need to be presented. |
| 22 | From what I heard, there would be no benefits. The increased tax revenue would break even at best, and the character of the borough would be gone forever. If, and only if, it would mean that no more farmland in Chester County would ever be developed, that would be a benefit, but that won't happen. |
| 23 | |
| 24 | At this time, I see no benefits until we absorb the King St. Flats and the long term effects of that expansion are understood. |
| 25 | Increased traffic, increased pollution, increased need for services (police!) and so on..... |
| 26 | |
| 27 | New residents bolster community activities and organizations. |
| 28 | New residents bolster community activities and organizations. |
| 29 | |
| 30 | New residents or employees increase business customer base. The "small town, old" feel is resulting in decrepit housing. Buildings are falling down and need to be rehabilitated. I think the town look shabby and far from quaint. |
| 31 | New residents bolster community activities and organizations. The ultimate goal should be to bulldoze all the properties in the borough that are falling down and replace them with residential and office space with "small town" charm. |
| 32 | Improved appearance of properties. |
| 33 | Tax revenue for the Borough. |
| 34 | |

6. WHAT IS YOUR BIGGEST CONCERN WITH TRANSIT-ORIENTED DEVELOPMENT?

- 1 Visitors to the development might use the parking space intended for SEPTA commuters.
- 2 Change in proportion of renters vs. owners. Change in the Borough's character (appearance, historic fabric, etc.). More residents generate need for expanded parks, library, police and other services. Traffic. Parking.
- 3 Traffic. Traffic on a one lane road w/a 5-lane bridge would be a nightmare.
- 4 Traffic. Parking.
- 5 Traffic. Parking.
- 6
- 7
- 8 More residents generate need for expanded parks, library, police and other services. Parking. Runoff, trash. There are only 2 roads which give access to the town. When SEPTA makes improvement to the railroad bridge, there will be.....
- 9 Parking
- 10 Change in the Borough's character (appearance, historic fabric, etc.)
- 11
- 12
- 13 Parking. Change in Borough's character.
- 14 Change in proportion of renters vs. owners. Change in the Borough's character (appearance, historic fabric, etc.). Parking.
- 15 The amount of land within Malvern Borough is small. Adding many more new residences would increase our density beyond the "small town character," even if the total absolute residents remains small.
- 16 How traffic and businesses will be impacted.
- 17
- 18 I can't pick any of these because they are all my biggest concerns.
- 19 Effect on business industrial park.
- 20 Change in Borough's character (appearance, historic fabric, etc.)
- 21 Parking. Change in Borough's character.
- 22
- 23 Parking. Change in Borough's character.
- 24 I would like to see more creative thought about what could happen so that we can improve both Malvern and the entire region. What about green, no cars (or very few), mixed-age development, facilities for all in new buildings like parks, art, recreation, etc.
- 25 Parking. Change in Borough's character. More residents generate need for expanded parks, library, police and other services. Parking.
- 26 Spending! Don't think we should do anything other than what I said on Page 1.
- 27
- 28
- 29
- 30 No concern, bring it on!
- 31 Bridge Street needs to be for local residents only. Malin Road extension is a must.
- 32
- 33 More residents generate need for expanded parks, library, police and other services.
- 34

7. IF THE MAIN REDEVELOPMENT OCCURS NORTH OF THE RAILROAD TRACKS, DOES THAT CHANGE YOUR OPINION OR CONCERNS?

- 1
- 2 No, I still am concerned about the traffic, parking, safety of this town.
- 3
- 4
- 5
- 6
- 7 Possibly, yes. Redevelopment north of the Borough is very bad. So, redevelopment that runs off to Valley Creek should make significant improvements to reduce the volume and rate.
- 8
- 9 I like the idea of building on existing (run down) property, as long as it is developed in an eco-conscious manner and to promote public transit.
- 10
- 11 I'd prefer the north and limit the height.
- 12 I'm receptive to redevelopment. I just don't want to see beautiful wooded lots destroyed.
- 13
- 14
- 15 It moderates it but does not remove it. The addition of population would still be present on foot and by car even if their residences are not conspicuous.
- 16 There was nothing presented that occurs south of railroad tracks, so I don't understand the question.
- 17 Yes, but still want to limit height and density.
- 18 NO. This is the side of town that I live on.
- 19
- 20 We are a 1.3 square mile community. What happens anywhere in the borough affects everyone!
- 21
- 22 Although it's not in the immediate vicinity of my house, I believe it would fundamentally and detrimentally alter the character of the borough, crowding us with people and cars and taking away the individual character of the visual appearance of the town. The East King Street development is doing that already.
- 23
- 24 Of course, the location matters. But whatever is in Malvern, the school district and the area affects everything else. It must be approached this way.
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33 I'm assuming all of the proposed development would be north of the railroad.
- 34 However, would like to see pedestrian bridges over tracks and a retail component to the new residential developments.

8. ANY COMMENTS RELATING TO THE CONCEPTS PRESENTED OR TO THE TOD PLAN IN GENERAL

| | |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | |
| 2 | It is a good idea to plan ahead before over-development. |
| 3 | |
| 4 | Concept with smaller more spread out would be better. |
| 5 | |
| 6 | All for it. Move ahead. |
| 7 | I'd like the Borough to require redevelopment to improve stormwater runoff not just hold the status quo. I feel the stepped alternative is the best approach. I agree that East Whiteland residents and Twp. Manager/Engineer should be involved to collect/prioritize the potential impacts. |
| 8 | I am not sure if there is a real need for more housing. |
| 9 | The fewer stories the better. I would like to see a development plan that includes more green space! |
| 10 | |
| 11 | Get the word out well in advance of future meetings. |
| 12 | How about the one-lane bridge on Warren Avenue? |
| 13 | I don't think presenting these plans are thought out. The fact that Malin Road Extension is not in the plan will have a negative impact on the community. Who are the developers: Who are the people stating, "they want to live in the Borough"? Why the pressure? |
| 14 | I think any further development needs to maintain priority with the current residential areas. |
| 15 | I think it is necessary to evaluate possible TOD development because current economic/population trend will create pressure to allow increased development in Malvern whether the residents want it or not. Malvern's decision makers need the information the TOD study will provide, whatever they may choose to do. |
| 16 | It seems that no consideration was given to changes on Broad Street east of Warren. I would think there could be a possibility for higher density along the south side of Broad Street between Bridge and Warren. |
| 17 | Strongly opposed to high density option - does not fit the character of the town. I was opposed to Eastland Flats and I have heard a number of residents complain about the height of the buildings. |
| 18 | I don't think we need this many residences in this type of format. How about taking over the whole ----- area and put your density near the train station (lower buildings) and move away into single family homes. That's what will keep the character of the borough more intact. |
| 19 | See # 4 - most important! This will have a profound impact on population causing increase in borough appearance (police, fire, general maintenance). Is Whiteland Township involved in any of this? |
| 20 | |
| 21 | Please propose more plans, lower buildings, more public use space, better urban design. |
| 22 | I firmly believe that no further development, at least no developments greater than the size of two dwelling units, be allowed in Malvern Borough. The East King Street development is appalling in its size and scope. It has drastically altered the appearance and atmosphere of King Street. We have no examples of small town increasing its population on a scale even remotely like this, so we should not have such a rapid growth. We should allow only individual lots to be developed by individuals who plan to occupy the place themselves. |
| 23 | |
| 24 | 1. Wait until the Flats have "settled in." Everything else would be speculation. 2. Without expert socio/economic input, a plan is merely a business development without an understanding of the changes a small town will experience. Without a better sense of where we have been and where we are going, more intense development just makes someone money without doing much for the citizens. |
| 25 | Stop and rethink! We are interested in a quality of life, think small !! How about "step" housing or setback every floor where each apartment has a veranda with greenery in boxes? Create a place where you'd really want to live not just commute out of and back into. |
| 26 | Great informative presentations. Clear explanations! |
| 27 | The study was and is worth doing as part of a larger comprehensive plan for Malvern's future. We must find a solution or solutions to the traffic restrictions in getting through or around the Borough. |
| 28 | |
| 29 | |
| 30 | I believe this is the way the population is trending and Malvern has an opportunity to build revenue that other towns would love to have. The proposed development is right near my home and I think it's a great idea for the town and look forward to it. I would choose the option that is most like Eastside Flats - 4 levels alternative. |
| 31 | I moved here because of the development of the train station and East Side Flats. I'm in my 30's. All people my age and younger are looking for a town with restaurants, business and office space. The more developments we can build like E. Side Flats the better. In addition, residences that are falling over need to be removed. "4 level" plan looks best. |
| 32 | |
| 33 | for an initial reaction, I would prefer the "plan C" with the most dense residential units nearest the railroad and available properties to the west for mixed use (ind., commercial, residential). But I had not seen any of the options previously, so I could change my mind. Allow more open space options as well. |

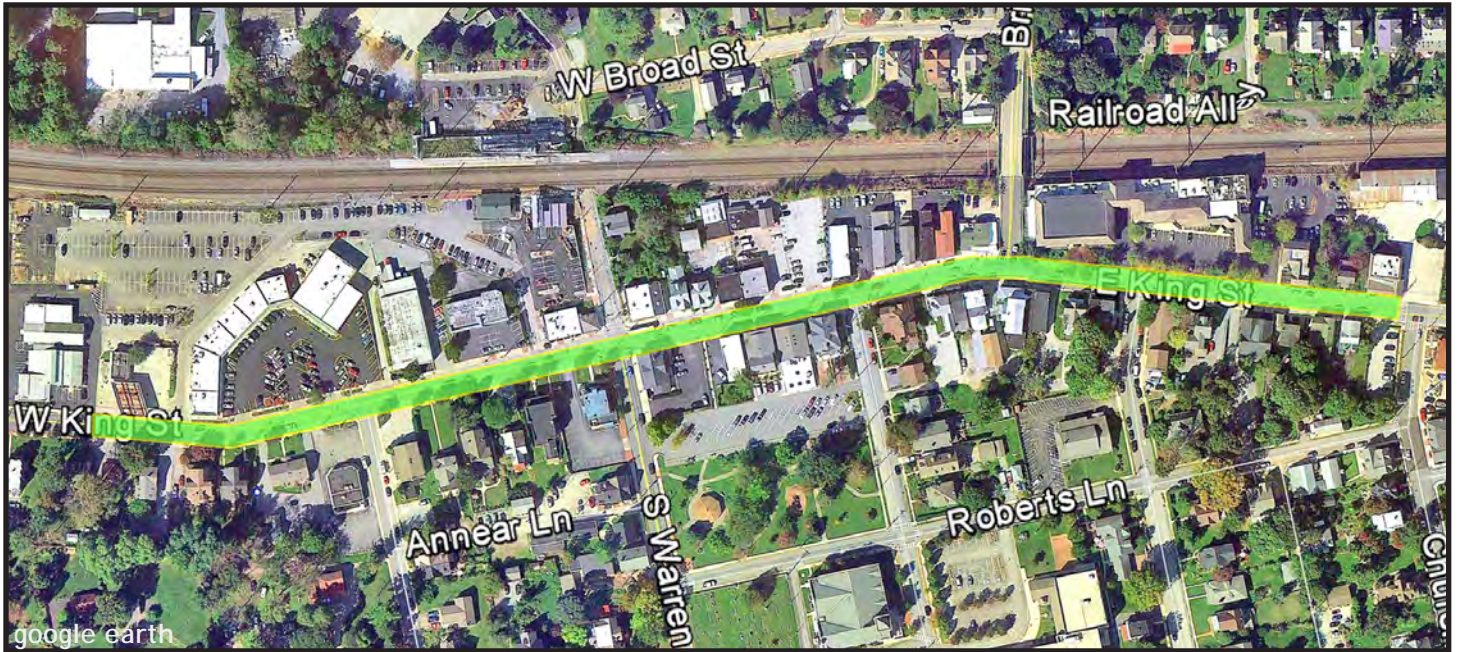
MALVERN TRANSIT ORIENTED DEVELOPMENT STUDY
Public Workshop 2 survey response

RESPONDENT'S CONTACT INFO (if provided)

| | | | |
|----|--------------------|--------------------------------------------|------------------------------------------------------|
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Guidelines for Infill Development King Street, Malvern Borough

Borough of Malvern - Chester County, Pennsylvania



These Guidelines address several important considerations pertaining to Infill Development along the portion of King Street highlighted in the above aerial photograph.

- + Overall Intent and Goals
- + Building Positioning and Height
- + Building Design
- + Parking Positioning and Screening
- + Pedestrian Amenities

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Town Planners & Landscape Architects

November 12, 2013

Overall Intent and Goals

Guidelines for Infill Development - King Street

Borough of Malvern - Chester County, PA



Opportunity for a single-story building on the left to rise to the traditional building height at the right.

Intent:

- 1.1 These Guidelines are intended to comply with Section 708-A of the Pennsylvania Municipalities Planning Code titled: Manual of Written and Graphic Design Guidelines.
- 1.2 These Guidelines are intended to help protect, enhance, and strengthen the character of Malvern Borough along King Street.
- 1.3 These Guidelines are intended to be a “tool box” that will help to evaluate future proposals for infill development and redevelopment of properties and buildings along portions of King Street.
- 1.4 These Guidelines are intended to encourage pedestrian circulation along King Street.



Opportunity for Parking Screening in front of a deep setback building.

Guidelines:

- 1.5 These Guidelines shall be utilized for infill development and redevelopment along King Street.
- 1.6 These Guidelines shall be utilized to plan, design, construct and maintain buildings, structures, streetscapes, and landscapes.
- 1.7 The “best practices” examples of places, spaces, buildings, streetscapes, etc. as shown in these Guidelines shall be emulated.



Opportunity along King Street to maintain five (5) feet of clear sidewalk width.



Best Practice: a small Pedestrian Gathering Area along King Street.

Overall Intent and Goals

Guidelines for Infill Development - King Street

Borough of Malvern - Chester County, PA



Traditional building alignment and form along the south side of King Street

Guidelines:

- 1.8 These Guidelines shall be utilized to create a planned, physically integrated mix of uses in Downtown Malvern that maximize opportunities for pedestrian movement and patronage of multiple facilities, in scale and proportion to existing streetscapes.

Guidelines:

- 1.9 Architectural Plans and Building Elevations shall be submitted with all land development plan submissions. Such plans and elevations shall be dimensioned, and shall indicate proposed materials.



Traditional building alignment and form along the north side of King Street

Building Positioning and Height

Guidelines for Infill Development - King Street

Borough of Malvern - Chester County, PA



Opportunities for single-story buildings along King Street to be built higher if redeveloped.

Intent:

- 2.1 The positioning and height of infill buildings is intended to be referential to existing traditional buildings in Malvern Borough. Buildings are intended to be located in general alignment with other buildings on a block, close to the sidewalks.
- 2.2 Minimum building heights are intended to define clearly recognizable streetscape edges.
- 2.3 Higher building heights are intended to induce more efficient land use while providing opportunities for a vertical mix of uses.



Opportunity for a redevelopment or infill building to be built closer to the sidewalk along King Street.

Guidelines:

- 2.4 New Buildings shall have a scale and size similar to the traditional buildings in Malvern Borough.
- 2.5 A minimum building height of 20 feet shall be provided for new buildings along King Street.
- 2.6 If an existing one-story building is redeveloped, one additional story shall be constructed, or it shall be at least 20 feet in height along the primary facade.
- 2.7 The maximum building height shall be governed by the applicable Zoning District regulations.
- 2.8 Front yards for infill projects shall be consistent with traditional building setbacks for existing buildings on the same block along King Street.



Two-story buildings along King Street with traditional shallow building setbacks adjacent to the sidewalk.



Best Practices example of a new infill corner store at Southern Village, Chapel Hill, NC.

Building Positioning and Height

Guidelines for Infill Development - King Street

Borough of Malvern - Chester County, PA



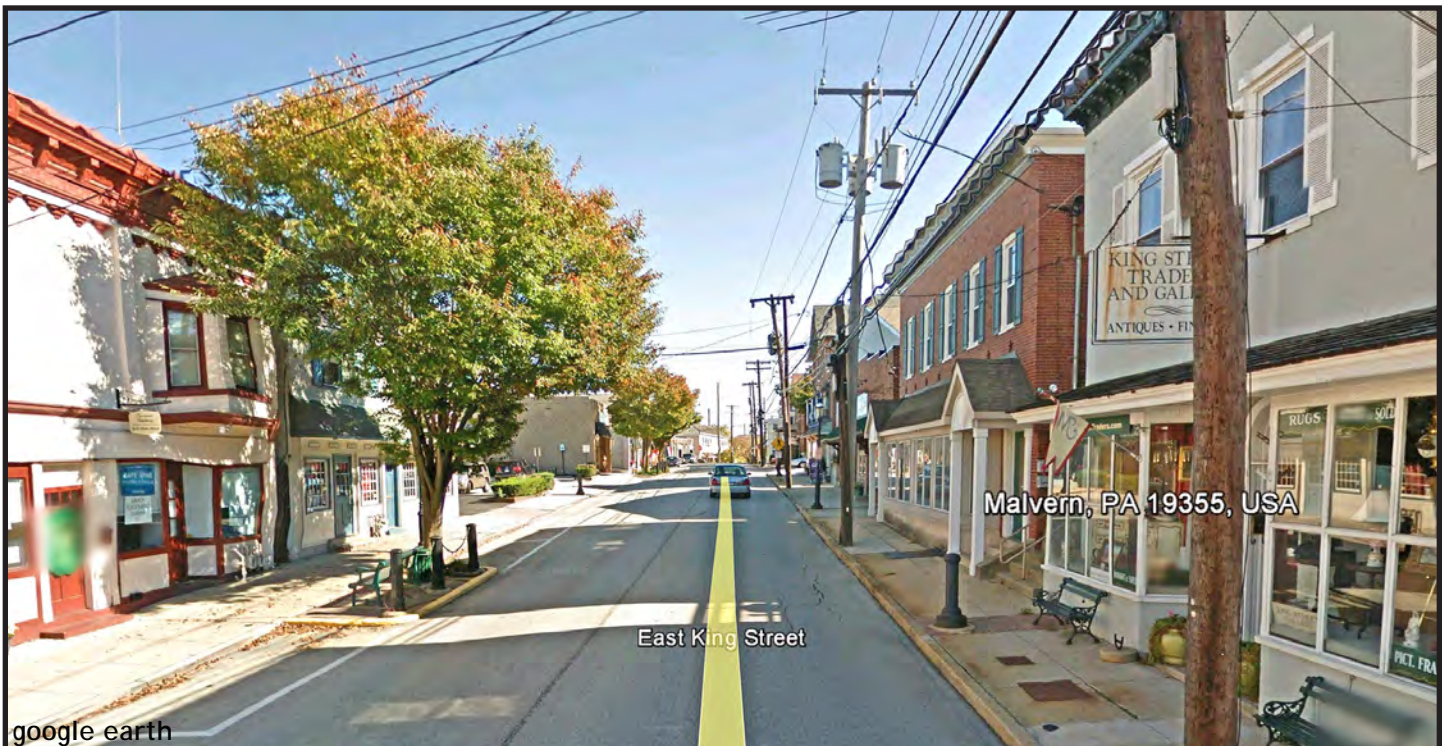
Traditional "Main Street" character along King Street with Buildings in alignment

Guidelines:

- 2.9 New Buildings shall adjoin sidewalks at street corners (with parking in the rear), unless a Plaza or Pocket Park is provided.

Guidelines:

- 2.10 At least 60% of the building facade shall be located within five (5) feet of the sidewalks. Up to 40% of the building facade may be comprised of recesses or projections to add visual variety and diversity.



Traditional Building Positioning along King Street

Building Design

Guidelines for Infill Development - King Street

Borough of Malvern - Chester County, PA



Opportunity for enhanced building design and facade enhancement.

Intent:

- 3.1 The design of infill buildings is intended to be referential to existing traditional building styles and materials in Malvern Borough.
- 3.2 Facade articulation, variation in roof lines, and vertical expression of buildings, is intended to promote consistency with the scale and proportion of traditional streetscapes along King Street.



Opportunity for variation in the roof line.

Guidelines:

- 3.3 New buildings shall have massing, proportion, fenestration, and materials similar to the traditional buildings in Malvern Borough.
- 3.4 A primarily vertical expression to buildings shall be created through the use of facade articulation in the form of windows, doors, pilasters, columns, and colonnades.
- 3.5 Roof lines of buildings shall be varied through the use of dormers, gables, and changes in roof pitch.
- 3.6 New building facades shall primarily utilize earth tone colors.



Variations in roof lines create visual interest along King Street, and promote variety to the scale and proportion of the streetscape.

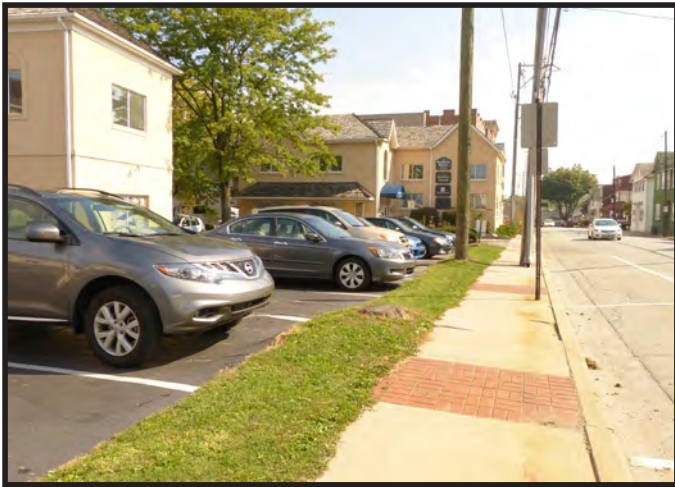


The primarily vertical expression of these buildings along King Street is created through roof gables, porch columns, a turret, and the vertical orientation of the windows.

Parking Positioning and Screening

Guidelines for Infill Development - King Street

Malvern Borough - Chester County, PA



Opportunity for additional landscape buffer, and screening of parking adjacent to the sidewalk.

Intent:

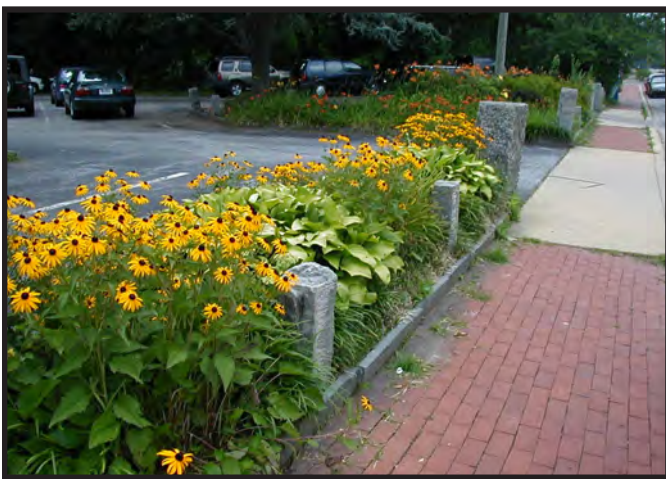
- 4.1 Off-street parking is intended to accommodate business patrons, shop and store owners, and tenants.
- 4.2 Off-Street Parking is intended to be located at the rear of buildings.
- 4.3 Off-street parking lots are intended to be buffered and screened from view.
- 4.4 On-Street Parking is intended to provide vital parking spaces, as well as to buffer pedestrians from vehicular traffic.



A deep setback that needs to be softened with a landscaped street edge.

Guidelines:

- 4.5 Off-Street Parking shall be located to the rear of buildings, or to the side of buildings, where necessary.
- 4.6 Off-Street Parking lots shall not be located at street corners.
- 4.7 Off-street parking areas that are visible from a street shall be separated from the public Streetscape by a hedge, fence, wall, pier, and/or masonry structures, to retain a pedestrian-scaled streetscape environment.
- 4.8 On-Street Parking shall be maintained, and shall be increased where feasible.
- 4.9 If an existing building already has a deep setback, the frontage shall be landscaped with a Street Wall per Guideline 4.7, above whenever redevelopment is proposed.



Off-street parking softened and screened with landscaping, Centreville, DE.



Off-street parking buffered and screened with a combination of piers, fence, shrubs and bench, Beaver, PA.

Pedestrian Amenities

Guidelines for Infill Development - King Street

Borough of Malvern - Chester County, PA



Opportunity along King Street for a new Crosswalk with a curb cut and a detectable warning strip.

Intent:

- 5.1 Sidewalks and crosswalks are intended to form an interconnected pedestrian network.
- 5.2 Pedestrian Gathering Areas are intended to provide viable opportunities to celebrate the public realm of Downtown Malvern.
- 5.3 Pedestrian Gathering Areas, such as Plazas and Pedestrian Pockets, are intended to provide opportunities for sitting.



Pedestrian Pocket as Pedestrian Gathering Area along King Street, with brick pavers, benches and ornamental bollards.



Plantings soften the appearance of parking at the Malvern Shopping Center, with an opportunity for small seating area.

Guidelines:

- 5.4 Sidewalks shall be at least five (5) feet in width, with at least five (5) feet of clear maintained pedestrian access.
- 5.5 Crosswalks shall be located at all downtown street intersections, connecting opposing accessible sidewalk ramps.
- 5.6 Crosswalks shall be at least six (6) feet in width.
- 5.7 Accessible sidewalk ramps with ADA-approved detectable sidewalk warnings shall be provided. Such warnings shall visually contrast with surrounding paved areas.
- 5.8 Brick paving (designed for vehicular use) shall extend across access drives.
- 5.9 Decorative pavers, benches and plantings shall be installed and maintained in Plazas and Pocket Parks for year-round attractiveness.



Pocket Park as a Pedestrian Gathering Area with brick pavers, benches, planters, and other plantings, Oakmont, PA.

Model Transit Oriented Development (TOD) Overlay District

Malvern Borough, Chester County, Pennsylvania

Overview

This model Ordinance provides a general framework for the approach to preparing a TOD Overlay District Ordinance.

Overlay Districts are enabled in Article VI – “Zoning”, of the Pennsylvania Municipalities Planning Code (MPC), Act 247, As Amended. Section 605. “Classifications” specifically enables Overlay Districts in subsection 605.(2)(i), whereby additional classifications are permitted “at, along or near rail or transit terminals.”

Therefore, a TOD Overlay District could be mapped to depict properties within a ¼ mile radius (1,320 foot) pedestrian shed (a 5-minute walk) of the Malvern train station.

This Outline for a TOD Overlay District could be considered as an early step in the discussion process for such an Ordinance. Further, rather than using a circle to depict the 5-minute walk zone, the boundaries of the TOD Overlay District should follow property lines. This determination is an important one, and needs to be reviewed by Borough Council, the Borough Planning Commission and staff.

In any event, the Outline below represents a model, based on best practices TOD Ordinance examples from other municipalities.

The first draft Outline for this TOD Overlay District includes:

- 1.0 Intent
- 2.0 Applicability
- 3.0 Definitions
- 4.0 Use Regulations
- 5.0 Density and Dimensional Requirements
- 6.0 Parking Requirements
- 7.0 Design Standards

Additional sections and subsections could emerge during a review process with Borough Council, the Borough Planning Commission, Staff, the Borough Solicitor, and the Stakeholders.

Section 1.0 Intent

The Transit Oriented Development (TOD) Overlay District is intended to:

1. Encourage a mix of uses within the current LI district within a 5-minute walking distance of the Malvern train station to increase transit ridership, consistent with the Borough’s Comprehensive Plan;
2. Create a pedestrian-friendly environment in proximity to the Malvern train station in order to encourage walking, bicycling and transit use and to better link the north and south sides of the Borough;
3. Encourage building reuse, infill development, and/or redevelopment for continued economic vitality.

Section 2.0 Applicability

The TOD Overlay District as shown on the Malvern Borough Zoning Map is generally within a ¼ mile radius of the Malvern train station on the north side of the station, measured from the center point of the station building.

Section 3.0 Definitions

Transit-Oriented Development. A development pattern created around the Malvern train station that is characterized by mixed uses, taller buildings, a safe and attractive pedestrian environment, reduced parking, and direct and convenient access to the Train Station.

Train Station. The area including the station building and the passenger platform which supports transit usage and that is operated by SEPTA.

Section 4.0 Use Regulations

Section 4.1 Permitted Principal Uses:

The Uses listed below are permitted Principal Uses

Table 1. Principal Permitted Uses in the TOD Overlay District

| |
|----------------------------------------------------------------------------------------|
| Apartments above ground floor commercial use |
| Service-oriented uses |
| Mixed uses with ground floor retail, personal services and/or service-oriented offices |
| Banks |
| Retail under 10,000 square feet of ground floor area |
| Municipal buildings |
| Hotel |
| Transit Station |
| Restaurant |
| Civic, cultural and community facility |
| Structured Parking |
| Daycare facility |

Notes:

- a. A TOD Overlay District should include a mix of uses to encourage activity throughout daytime and evening hours, and to encourage pedestrian travel for different trip purposes.
- b. The Uses in Table 1. include examples of Uses.

Section 4.2 Conditional Uses

The Conditional Uses need to be added to this Model Ordinance. They could be related to buildings with heights greater than 35 feet. The Conditional Uses could also be related to ground floor building areas in excess of 10,000 square feet (gross floor area).

Section 5.0 Density and Dimensional Requirements

1. Density
 - a. The base density of the underlying zoning district(s) could be increased as a function of building heights greater than 35 feet, provided adequate provisions are made for the construction and maintenance of parking.

2. Build-to Lines

- a. A building shall have a minimum front yard setback of 0 feet and a maximum setback of five feet from the front property line. A setback may be increased to 20 feet from the front property line if a courtyard, plaza, or outdoor seating area is incorporated into the development adjacent to the public street.
- b. The minimum setback for a side yard shall be zero feet. Alleys between buildings may be provided for the provision of beneficial public connections between buildings, public spaces and streets. The maximum side yard setback shall not exceed 25 feet.
- c. The minimum setback for a rear yard shall be 15 feet.

3. Lot Coverage

- a. Minimum lot coverage for buildings and impervious surfaces shall be 60 percent of the lot area. This minimum may be reduced if a minimum of 40 percent of the lot is developed as improved public open space or if ingress, egress or other building code requirements would otherwise make the development infeasible.
- b. Maximum lot coverage for buildings and impervious surfaces is limited to 95 percent. This lot coverage may be increased to 100 percent for mixed use buildings, or for renovated or adaptively re-used historic buildings.

4. Building Height Requirements

- a. The minimum allowable building height shall be 20 feet above grade.
- b. The maximum building height shall be ____ feet above grade.
- c. Notwithstanding the building height provisions noted above, no building shall exceed by more than two stories or 30 feet, whichever is less, the height of the tallest building or buildings that front on the same street and are located within 150 feet of such building.

5. Driveways

- a. The creation of new sidewalk curb cuts shall be avoided whenever an alternative point of access is available or can be created. Shared access agreements are encouraged.
- b. The minimum width for one-way traffic is 12 feet, and the maximum is 16 feet.
- c. The minimum width for two-way traffic is 16 feet and the maximum is 22 feet.

6. Sidewalks

- a. A minimum unobstructed sidewalk width of five feet shall be required. Sidewalk width may be up to 20 feet, and is dependent on expected level of activity.
- b. Sidewalks shall be constructed along the frontage of all public streets.
- c. Pedestrian scale lighting fixtures no greater than 15 feet in height shall be provided along all sidewalks and walkways to provide ample lighting during nighttime hours.
- d. All sidewalks and walkways shall meet ADA requirements.

Section 6.0 Parking Requirements

Parking requirements within the TOD Overlay District shall be as follows:

1. A maximum of 1 parking space per multi-family dwelling unit, plus 1 guest space per 15 units.
2. Parking for non-residential uses shall be provided at not more than 3 per 1,000 square feet (gross floor area) and not less than less than 1 per 500 square feet (gross floor area) for uses covering less than 1,000 square feet.
3. Further reduction in the number of required parking spaces may be permitted by Conditional Use.
4. Shared parking is strongly encouraged. On lots serving more than one use, the total number of spaces required may be reduced, provided that the applicant submits credible evidence to the satisfaction of the Borough that the peak parking demand of the uses do not coincide, and that the accumulated parking demand at any one time shall not exceed the total capacity of the facility. Such evidence shall take into account the parking demand of residents, employees, customers, visitors, and any other users of the lot. It shall also take into account parking demand on both weekends and weekdays, and both during the daytime and overnight.
5. Where feasible, ingress and egress from parking shall be from side streets, alleys, or service drives.
6. Surface parking lots shall be to the rear of buildings, and shall not exceed one acre in size. Surface parking lots are prohibited in front of businesses.
7. Surface parking lots with more than 30 spaces shall be divided into separate areas by landscaped areas of at least 10 feet in width. A minimum of 15 percent of all surface lots shall be landscaped. No row of parking shall be more than 10 spaces wide without being interrupted by a landscape area. Each landscape area shall have at least one shade tree.
8. Surface lots shall be screened along all sidewalks by a landscape buffer consisting of piers, fencing, and plantings.
9. Surface parking lots shall provide pedestrian walkways and connections to the sidewalk system.
10. On-street parking is permitted and encouraged.
11. Parking structures shall have well-designed and marked pedestrian walkways and connections to the sidewalk system.
12. Parking structures shall include ground level Commercial use.
13. Parking structures shall be designed to be compatible with adjacent buildings and architecture.
14. Bicycle racks shall be provided on site at a ratio of 1 space for every 15 automobile parking spaces or portion thereof.
15. All parking lots and structures shall provide pedestrian accessways to streets that meet the Dimensional Requirements detailed in section 5.0 above.
16. Signage that shows the location and best means of access to the Train Station shall be provided at all parking facilities.

Section 7.0 Design Standards

1. Refer to the "Guidelines for Infill Development King Street", dated 11-12-13 for Design Standards, as well as the provisions below.
2. Streetscapes
 - a. Street trees shall be planted by the developer along all public rights-of-way. Street trees shall be planted at intervals of no more than 40 feet.
 - b. Pedestrian amenities such as benches, public art, planters, waste receptacles, bicycle racks, etc. shall be located along sidewalks, and in landscaped areas, public spaces and plazas.
 - c. All new utilities shall be placed underground.

3. Building Facades

- a. The main entrance of any building shall face the street. The main entrance shall not be set back more than five feet from the front property line, unless a public seating area or plaza is provided in front of the building.
- b. Facades over 50 feet in length shall be divided into shorter segments by means of façade modulation, repeating window patterns, changes in materials, canopies or awnings, varying roof lines and/or other architectural treatments.
- c. The ground floor of a front commercial façade shall contain a minimum of 50 percent glass.
- d. All buildings shall articulate the line between the ground and upper levels with a cornice, canopy, balcony, and arcade.
- e. All structured parking shall be designed so that the only openings at street level are those to accommodate vehicle ingress and egress, and pedestrian access to the building, and to ground level Commercial. All openings shall be designed so that vehicles are not visible from the sidewalk. The remainder of the street frontage shall be available for commercial usage.



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