Woodcrest Station Transit Oriented Development Plan

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Transit-oriented development, or TOD, is a concept that has been largely embraced throughout the field of city planning over the past few decades, and has become a commonly understood term amongst local governments and community members. The natural sensibility of TOD—that housing, services, and jobs should be concentrated around existing or planned rapid transit stations—has made it a popular means of capturing and managing population growth in suburban areas.

Some suburban communities struggle with moving TOD from aspiration to reality, even where superior transit service is offered. A common issue with these communities is that they have myopically focused on the “T” of TOD, expecting that transit service alone will produce transit-oriented development. Often overlooked is the “O” of TOD, Orientation. An area’s Orientation entails how lots, streets, sidewalks, and trails are organized around a transit station or line. Importantly, Orientation also speaks to the nature and quality of those streets, walkways, and bikeways. In order to promote appropriate development around transit, the area’s Orientation—everything between one’s front door and the train station itself—must be considered.

While good transit is the heart of TOD, a heart can not work in isolation; arteries, veins, and capillaries are needed to circulate blood to and from the heart. Just as muscles and organs become atrophic without an appropriate system of capillaries connecting them to the heart, development around transit will languish without pleasant, safe, and direct connections to the area’s station.

Thus far, Cherry Hill Township has been unable to encourage TOD within its boundaries, despite the superior rail service offered at PATCO’s Woodcrest Station. The “heart” at Woodcrest Station is strong, it provides fast, frequent, affordable, 24-hour service to Camden and Center City Philadelphia. This plan is about improving the circulatory systems between Woodcrest Station and surrounding development parcels, job centers, and residential neighborhoods to encourage walking, biking, and transit use, and support transit-oriented development.

This plan also lays out a vision for the Victory Redevelopment Area, a nearly 34-acre vacant parcel within walking distance of Woodcrest Station. The vision, which supports walking, bicycling, and transit usage, and minimizes vehicular traffic impact, was realized through in-depth public engagement and a series of meetings between Township officials and developer representatives.

By holistically examining area transportation networks and future development parcels, Cherry Hill Township will be able to meet statutory affordable housing requirements, while minimizing traffic impacts, encouraging walking, bicycling, and transit use, and producing attractive, appropriate, and transit-accessible housing and services.
Project Purpose & Structure

The Woodcrest Station Transit-Oriented Development (TOD) Plan consists of three components:

- An Existing Conditions Analysis, which documents and analyzes existing transportation networks and conditions, land use patterns, environmental conditions, and zoning regulations surrounding PATCO’s Woodcrest Station. A summary of this analysis can be found on page 11 of this report, and the full analysis is attached as Appendix A.

- A set of Multi-Modal Circulation Recommendations, found on page 17 of this report, proposing new bike and pedestrian connections as well as traffic safety and maintenance improvements; and

- The Victory Site Redevelopment Plan Vision, located on page 37, which will serve as a community-driven, guiding statement for the forthcoming Victory Redevelopment Plan.

The Existing Conditions Analysis largely documents existing transportation networks and conditions in the area surrounding PATCO’s Woodcrest Station in Cherry Hill, NJ, while the Multi-Modal Circulation Recommendations propose public realm and connectivity interventions to improve multi-modal connections between Woodcrest Station and surrounding developments. The study area for the analysis and recommendations is highlighted in red in the aerial map at right.

The Victory Site Redevelopment Plan Vision will provide guidance for the appropriate redevelopment of the Victory Refrigeration Redevelopment Area, highlighted in yellow in the aerial map at right, across Woodcrest-Melrose from the Woodcrest PATCO Station. The Redevelopment Plan Vision will develop a vision for the Victory Refrigeration Redevelopment Area that supports transit-oriented development and related planning practices.

As a whole, the Woodcrest Station TOD Plan provides recommendations to improve accessibility and multi-modal connectivity, leverage existing public-transit infrastructure, and steer future improvements and development toward a transit-oriented vision in both the public and private realm.

Funding

This study is funded by the Delaware Valley Regional Planning Commission’s (DVRPC) Transportation and Community Development Improvement (TCDI) grant program. DVRPC is the regional planning authority for Philadelphia and the surrounding six counties, including Camden County.
Area Boundaries

Woodcrest Station, the third most eastern stop on the PATCO High Speed Line, is located in the southwest corner of Cherry Hill Township, close to the Borough of Lawnside.

Although the Woodcrest Station TOD Plan Study Area originally included the entire area within ½ mile of PATCO’s Woodcrest Station, the “cut off” nature of surrounding land uses warranted a more nuanced Study Area boundary. The TOD Plan Study Area, bounded by the red line in Figure 1 contains Woodcrest Station,

Figure 1. Woodcrest TOD Plan Study Area

Aerial Source: NJ GIS, Google Earth
its parking lots, the Victory Refrigeration Redevelopment Area, and surrounding offices, open spaces, and other properties within Cherry Hill Township. The Victory Site Redevelopment Plan Vision focuses solely on the Victory Refrigeration Redevelopment Area, bounded by the dashed yellow line in Figure 1. While the residential neighborhoods to the east and south, Woodcrest and Ashland, are not included within the TOD Plan Study Area, connections between these nearby neighborhoods and the Study Area will be considered in this plan.

Quadrants and Barriers
As illustrated in Figure 2, the TOD Plan Study Area is comprised of a set of diverse, yet separated auto-oriented uses. The Study Area can be thought of as four quadrants separated by Woodcrest Road/Melrose Avenue (Camden County Route 667) and the PATCO rail lines. Each of these quadrants, divided below by dashed yellow lines, is defined by one or two major land uses, separated into sectors.

Starting from the northwest (upper left) quadrant, the Study Area is largely dominated by:

• **NW** – Offices and a few houses mixed in with some vacant lots and wooded areas. The on/off ramp to I-295, Essex Road, runs through this quadrant.
• **NE** – The currently vacant Victory Refrigeration Redevelopment Area and a shipping and logistics center occupied by NFI Industries. The Victory Redevelopment Area is the focus of the Redevelopment Plan Vision.
• **SE** – Woodcrest Corporate Center, a major employment hub, which houses offices for Xerox, Comcast, Pinnacle Foods, Towers Watson, and, formerly, American Water. This building was formerly a Langston Steel industrial plant. Immediately south of the Center is the Green Acres-protected Burnt Mill Open Space.
• **SW** – Parking lot for Woodcrest Station, the station itself, wooded areas immediately west and south of the parking lot.

Beyond these quadrants lay suburban residential neighborhoods, undeveloped and undevelopable land, protected open space, and major highways. The Cherry Hill neighborhoods of Woodcrest and Ashland are situated to the east and south of the station area, respectively. Despite being within a half-mile of the station, these two neighborhoods are largely disconnected from Woodcrest Station.

Road Naming
The main east-west road that bisects the study area is Woodcrest Road and Melrose Ave. Traveling west, Woodcrest Road becomes Melrose Avenue. For simplicity, the road is referred to as “Woodcrest-Melrose” throughout the document, unless a specific section or intersection is being mentioned. For example, the intersection of Woodcrest Road and Burnt Mill Road. In those instances, only the street name is used.
Figure 2. Quadrants and Barriers within Study Area
Citizens are beginning to return to cities across the country, drawn by convenience, walkability, improved living conditions, and higher concentrations of employment opportunities. Additionally, the value of transit-oriented development and design has become recognized both inside cities and in transit-served suburbs. These trends are driving changes in the Philadelphia region as residents, and in turn, jobs, are relocating to the region’s cities and transit-accessible suburbs, while suburban growth has begun to slow in some areas.

Jobs Return to the Cities

Major cities across the country are in the midst of a renaissance, fueled by resurgence of jobs and residents in urban centers. The Philadelphia region is no exception. According to projections published by DVRPC, Philadelphia is expected to gain 98,279 jobs (+12.72%) between 2015 and 2045. The bulk of these new jobs will be in Center City (16,702 new jobs), the Navy Yard and Port area (15,745 new jobs), and in University City (13,003 new jobs). In the same time, urban centers are expected to generate the most new jobs in Camden County. The City of Camden and Gloucester City are expected to gain 4,200 (+10.07%) and 1,600 (+34.74%) new employees respectively.

Meanwhile, Cherry Hill is expected to lose 320 employees (-0.48%) between 2015 and 2045, while gaining 2,930 residents (+4.11%). It appears that while Cherry Hill will continue to attract new residents, it may be losing its luster as a magnet for new commercial development. In fact, this trend of jobs moving from suburbs back to cities may already be underway. One report found average annual employment growth in Center City Philadelphia growing by 2.0% while the city’s suburbs lost 0.1%. Another study found that tech employment in Philadelphia boomed by 30% between 2009 and 2014, while it actually declined by 11% in suburban New Jersey.

Easy access to these reemerging job centers is likely to be considered as a primary amenity for future residents. If future job opportunities are in major urban centers, Cherry Hill will need to provide housing options with high-quality transportation access to those centers.

Transit-Oriented Development is on the Rise

A number of factors are driving the trend toward TOD, including:

- Increased road and traffic congestion;
- Growing consumer disinclination toward suburbia and strip-mall development;
- Growing desire for quality urban lifestyle;
- Growing desire for more walkable lifestyles away from traffic;
- Changes in family structures: more singles, empty-nesters, etc; and
- Growing national support for Smart Growth.
Plan Review Summary

Studies and plans by PATCO, as well as the township, county, and state, were reviewed to gain a deeper understanding of Woodcrest Station, the surrounding area, and past redevelopment efforts. A comprehensive description of the plan review is available at the end of this document in Appendix B.

PATCO Station TOD

Although the area around Woodcrest Station has largely been ignored, the potential for TOD on PATCO’s property has been thoroughly examined.

PATCO’s Transit-Oriented Development Master Plan Study (2006) determined that “the value of PATCO’s parking lots at Woodcrest Station is for standalone TOD development or as a business center/office campus with direct highway access.” An illustrative site plan of such a build-out is presented below.

Figure 3. Potential Build Out of Parking Lots

Imagined build-out of Woodcrest Station parking lots. Source: PATCO Transit-Oriented Development Master Plans Study

Building on Our Strength: Evaluating TOD Opportunities in Greater Philadelphia (2017), used a set of rating systems to determine the TOD Orientation and Potential for station areas throughout the region. Although Woodcrest Station was not studied for this report, DVRPC stakeholders have said that the station area has very little current TOD Orientation, but very high TOD Potential.

Surrounding Neighborhoods

Woodcrest Station and the surrounding neighborhood was largely absent from township, county, and state plans. No roadway or pedestrian improvements were identified in any reviewed plan. Although Woodcrest Avenue was identified as a county bike route in some documents, no bicycle facilities exist in the area and no improvements are planned for public roadways. The Burnt Mill Open Space is not mentioned in the Township or County Open Space Plans. Given Woodcrest Station’s location in the corner of Cherry Hill Township, surrounded by vacant land and forests, it appears that little thought has been given to the area.
Redevelopment Investigations & Plans

Two areas near Woodcrest Station have been designated as in need of redevelopment: the Langston Steel Redevelopment Area and the Victory Refrigeration Redevelopment Area. The overall redevelopment process throughout New Jersey is guided by the State Redevelopment Plan.

Redeveloping the Victory Site was also found to contribute to state-wide smart growth goals by supporting economic development; promoting public transit usage, walking, and alternatives modes of transportation to reduce automobile dependency; and by encouraging redevelopment at an intensity sufficient to support transit, a broad range of uses, and efficient use of infrastructure.

The vision for the subsequent Redevelopment Plan will guide redevelopment on the Victory site and help ensure that smart growth and TOD principles are pursued. This top-level vision will be laid out within the Victory Refrigeration Redevelopment Plan.

County Plans

The County is currently planning for improvements to the intersection of CR 561 (Haddonfield-Berlin Rd) and Burnt Mill Rd. They include the addition of a dedicated left hand turn lane from CR561 onto Burnt Mill Rd and changes to timing of the signals along the CR 561 corridor to improve traffic flow, upgrades to pedestrian signals and pedestrian ramps. The entire pavement surface of the intersection and approaches will be reconstructed. Construction is anticipated to commence after PSE&G completes gas main replacements on CR 561.

State Redevelopment Plan

The State Planning Act (N.J.S.A. 52:18A-196 et seq.), adopted in 1985, establishes the framework for State policies and regulations related to smart growth principles, and a map which reflects desired growth patterns. Cherry Hill is identified as a regional center in the state plan. Woodcrest Station is within the Metropolitan Planning Area (Planning Area 1), the portion of the state designated for the most intense level of development. The purpose of the Metropolitan Area is to “provide for much of the state’s future redevelopment; revitalize cities and towns; promote growth in compact forms; stabilize older suburbs; redesign areas of sprawl; and protect the character of existing stable communities.”
**Existing Conditions Summary**

After establishing project scope and deliverables and conducting an in-depth plan review, a comprehensive study of existing conditions was undertaken and an Existing Conditions Analysis Report was drafted. The full findings of the Existing Conditions Analysis Report are included in this final report as Appendix A.

Existing land uses, zoning regulations, and environmental conditions were documented for the Woodcrest TOD Study Area. The site’s history was researched, and revealed a long history of industry and railroad access in the Woodcrest area.

Most importantly, existing transportation networks were cataloged and evaluated. Car traffic volumes and crash records revealed a high-crash intersection at Woodcrest and Burnt Mill Roads. Pedestrian and bike analyses uncovered disconnections within their respective networks. A summary map of Existing Transportation Conditions presented in Figure 4.

*Figure 4. Existing Conditions Summary Map*
Woodcrest-Melrose, the area’s main east-west axis, is not a safe or pleasant corridor for drivers, pedestrians, or bicyclists. Planned and recent improvements, including the new sidewalk on the Woodcrest-Melrose overpass and proposed bike lanes for the PATCO parking lot, have begun to balance the needs of pedestrians and bicyclists with those of drivers, but significant investments are needed to encourage walking, bicycling, and transit use around Woodcrest Station.

The physical barriers, poor pedestrian network conditions, and car-centric site planning within the Woodcrest Station TOD Study Area have hindered Woodcrest Station’s TOD potential. Stakeholder interviews, area office worker surveys, and a public open house event confirmed these initial findings, and pointed toward a local need for better multi-modal connections to Woodcrest Station.

The following issues are identified in Figure 4:

1 | The intersection of York Ave and Melrose Ave has no pedestrian crossing making it a dangerous intersection for those going from the station to the offices across the street.

2 | At the intersection of York and Melrose Avenues, trees and shrubs block drivers’ view of westbound traffic, making turns difficult and dangerous. Drivers turning from York Avenue must creep well into Melrose Avenue to determine if it is safe to turn.

3 | The staircase that descends from Woodcrest-Melrose is narrow, is not shoveled in the winter, and there is no ADA accessible option to get to the station from Woodcrest-Melrose.

4 | The steep grade of the overpass prevents motorists from seeing pedestrians, bicyclists, or other drivers on the other side of the bridge.

5 | Woodcrest Corporate Center (WCC), which houses over 10,000 employees, has only one exit that permits left turns. This signalized exit is the only way to get from WCC toward Essex Road and I-295. Exiting cars frequently back up throughout WCC’s parking lot as the traffic light cycles.

6 | There are long sections on both sides of Woodcrest-Melrose that do not have sidewalks.

7 | Woodcrest Road’s intersection with Burnt Mill Road is a high crash area. As described above, this intersection saw fourteen recorded car crashes in 2010 and 2014, one third of which resulted in injuries. This intersection saw more crashes than any other in the Study Area.

8 | The south side of the intersection of Burnt Mill Road and Woodcrest Road has no pedestrian crossing.
Extensive public engagement has informed the Woodcrest TOD Plan from the outset of the project. **Meetings and interviews** with transportation, planning, and redevelopment experts and other stakeholders provided a deep background into the Woodcrest area and its transportation and redevelopment challenges. A **survey** circulated to local employees and commuters who travel to and through the Woodcrest area daily provided this report a perspective only locals could supply. An **Open House Event**, which included a presentation on Existing Conditions and interactive workshop sessions on possible transportation improvements and development types for the Victory Redevelopment Area, provided significant insights into the community’s concerns and hopes for the Woodcrest area. More in-depth notes from the public outreach process can be found in Appendix C of this report.

**Stakeholder Meetings**

In June 2017, the project team met with a wide array of stakeholders, ranging from Township and County officials to area property owners. Transportation and planning representatives from NJ Transit, PATCO/DRPA, and DVRPC provided vital information on existing public transportation systems, planned area improvements, and the regional context in which Woodcrest Station and the surrounding area fit. The conversations provided insights into Woodcrest Station, the surrounding area, and the Victory site; PATCO operations; NJ Transit priorities; and local property owner and employee needs and preferences.

These interviews provided valuable guidance for the Existing Conditions Analysis and guide recommendations within both the Multi-Modal Circulation Plan and the Victory Site Redevelopment Plan Vision. A full summary of the stakeholder meeting sessions can be found in Appendix C of this document.

**Office Worker Survey**

In order to gauge attitudes about the Woodcrest area, the project team developed an online survey intended for area office workers. The property managers of the Woodcrest Corporate Center and 10 Melrose Avenue, the two largest offices in the Study Area, kindly agreed to distribute the digital surveys to their tenants.

As of the publication of this report, 51 survey entries have been recorded, providing insights into the needs and concerns of workers within the study area. **An overwhelming majority of respondents indicated that they use Woodcrest Station less than once a month (19) or never (23).** Respondents expressed a desire for **more lunch and shopping options within walking distance** of their workplaces, but were concerned with the potential **effect redevelopment at the**

How often do you use the Woodcrest PATCO Station?
Victory site could have on local traffic congestion. Unfortunately, about half the office workers who responded said that it was unlikely or extremely unlikely that new sidewalks or bus facilities would encourage them to walk, bike, or use PATCO to get to work. This is likely due to the wide geographic area from which workers commute to these office locations, much of which is not near the other stops on the PATCO High-Speed Line. References to the “Office Workers Survey” can be found multiple times throughout this document, as the responses were vital in the development of this report.

Open House Event
In March of 2018, the Woodcrest business community and Cherry Hill residents were invited to attend a public Open House event at Town Hall. Cherry Hill planning staff and Mayor Chuck Cahn introduced the project’s scope and purpose, reviewed the results of the Existing Conditions Analysis, and highlighted the legal requirement and opportunity for redevelopment within the Victory Redevelopment Area. A number of concerns were raised regarding the Victory Redevelopment Area’s future traffic impact in the surrounding area, and about the unsafe driving and walking conditions along Woodcrest-Melrose and Burnt Mill Road. Residents from neighborhoods surrounding the study area also expressed frustration with motorists cutting through neighborhoods to avoid traffic on the main roads.

After the presentation and question and answer session, attendees were invited to explore the interactive Open House boards, each staffed by representatives from Cherry Hill Township or Group Melvin Design. The Open House boards covered Existing Transportation Conditions Analysis and Recommendations, Victory Redevelopment Area Visioning, and General Information on and Area Case Studies of Transit-Oriented Development. Many of these boards offered interactive elements, such as voting options and comment areas.

Open house attendees offered nearly universal support for the proposed Multi-Modal Circulation Recommendations, represented below by orange dot stickers. Attendees mentioned heavy truck traffic and a lack of connected sidewalks as factors reducing walkability in the TOD study area.
A significant focus of the evening was on gathering public opinion on the Victory Redevelopment Area. Public input was critical in developing the Redevelopment Vision section of this report. Attendees were asked to vote on a Visual Preference Poll (shown below) as well as on boards displaying different land uses, development types, and zoning regulations. Respondents said that they would like the Victory Redevelopment Area to be a “Safe, Calm, Clean, Quiet, Friendly, Modern, and Welcoming” place in the future.
The area surrounding Woodcrest Station has the potential to be Cherry Hill’s leading site for transit-oriented development. The proximity to PATCO’s frequent, 24-hour service, easy access to I-295, and the presence of large developable parcels make this section of the Township ideal for new multi-family or commercial construction. Connectivity challenges documented in the Existing Conditions analysis, however, present serious obstacles for transit-oriented development.

**Physical improvements to the area’s bicycle and pedestrian network are required to secure connections between the study area and Woodcrest Station.** New sidewalks, bike paths, crosswalks, and bridges should cross barriers and connect housing and jobs to transit. Partnerships between County stakeholders, DRPA, property owners and the Township has the potential to encourage future development to take advantage of the area’s transit access, ensure that new connections remain open and usable, and to promote ADA accessibility in the area.

The recommendations that follow are based upon

- A comprehensive analysis of existing transportation conditions and input from neighborhood, Township, County, and State and other regional stakeholders
- The results of an area worker survey, and
- Feedback and input from a public outreach open house event.

The implementation of these recommendations are intended to promote walking, bicycling, and transit use in Cherry Hill, and advance the goals of multiple Township, County, and State plans.
Physical Infrastructure Improvements

The transit-oriented development (TOD) potential of the area surrounding Woodcrest Station is severely limited by the neighborhood’s fragmented and dangerous sidewalks, bike networks, and roadways. With hundreds of new residents coming to the Victory Redevelopment Area, new connections must be established with Woodcrest Station to encourage walking and biking, reduce potential traffic impacts, and improve pedestrian and traffic safety and flow. New pedestrian and bicycle connections should make it easier to walk along or across Woodcrest Road and the PATCO tracks which divide the study area. Traffic safety improvements should normalize traffic flows, making car movement more predictable without significantly affecting traffic throughput. These physical infrastructure improvements should form the framework on which real transit-oriented development may flourish around Woodcrest Station.

Figure 5 provides an overview of the recommendations made in this plan. At the Woodcrest TOD Open House, the public gave universal support to all the proposed recommendations, with the exception of the mid-block pedestrian crossing at Woodcrest Road and York Avenue. After the public outreach event, these recommendations were further studied in detail, as presented in the map on Page 24.

Some of these recommendations, particularly those that reconfigure intersections by altering turn lanes, require further traffic flow analysis before they can be implemented. Improvements recommended outside the existing road cartways, such as new sidewalks or a pedestrian bridge, should not impact traffic flows and could thus be implemented much sooner. Cherry Hill Township should work with Camden County, DRPA/PATCO, NJ Transit, DVRPC and area property owners to ensure that these new connectivity improvements can be built as a connected, comprehensive system.

The sections in Figure 6 and Figure 7 illustrate the proposed cross section of Melrose Avenue and Woodcrest Road. Figure 8 provides an illustrative plan of the proposed improvements.
TRAFFIC CALMING

NEW SIDEWALK

NORMALIZE INTERSECTION

WOODCREST BRIDGE

WOODCREST TRAIL

INDOOR BIKE RACKS

PLAZA STEPS & WOODCREST RAMP

TRAFFIC SAFETY IMPROVEMENT

PEDESTRIAN IMPROVEMENT

BIKE IMPROVEMENT

EXISTING SIDEWALKS

NEW BIKE LANE

NEW SIDEWALK

Miles
The above sections show the suggested changes along Melrose Avenue. At the top is the existing roadway design: there are two travel lanes and one turn lane. The cartway varies between 45 and 50 feet. The right-of-way is approximately 70 with the width varying at different points along the road.

This plans recommending that the travel lanes on the west bound lane be reduced from 20 to 13 feet and that, where there is no turning necessary, that a median be installed in the street. On both sides of the street, this plan also recommends the addition of sidewalks and a five foot landscaped “buffer” which helps separate the pedestrian realm and the traffic.
The above sections show the suggested changes along Woodcrest Avenue. At the top is the existing roadway design: there are two travel lanes and one turn lane. The cartway is approximately 30 feet. The right-of-way is approximately 70 with the width varying at different points along the road.

This plan recommends that a wider sidewalk with a more substantial buffer be installed on the south side of Woodcrest Road. In addition, this plan recommends that as part of the redevelopment of the Victory site, a sidewalk and buffer be installed on the north side of Woodcrest Road. Where the turning lane is not needed, it is recommended that a landscaped median be installed down the middle of the street.
Figure 8. Proposed Improvements to Woodcrest-Melrose
New Pedestrian and Bike Connections

The biggest obstacle to TOD around Woodcrest Station area is the absence of a safe, pleasant, and connected pedestrian and bicycle network. Although PATCO’s frequent service and the existing concentration of jobs and large redevelopable parcels should make this section of Cherry Hill an ideal location for transit-oriented development, the lack of sidewalks and road crossings makes walking or bicycling to Woodcrest Station very difficult. North-south and east-west connections across and along Woodcrest Road and PATCO tracks will encourage walking and bicycling, increase PATCO ridership, and reduce the traffic impact of nearby redevelopment.

Woodcrest Road forms the spine of the study area, carrying commuters between Cherry Hill, the Borough of Lawnside, I-295, and Woodcrest Station. As documented in the Existing Conditions Analysis, much of Woodcrest Road lacks sidewalks and pedestrian crossings are few and far-between. Additionally, despite being identified as a County Bike Route, Woodcrest Road has no bike lanes or other cycling infrastructure, and is intimidating to all but the most experienced road bikers.

The numbers and symbols that follow correspond to the recommendations in Figure 5 on page 16 and 7.

**New Sidewalks**  ❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚❚¤

On the north side of Woodcrest Road, the sidewalk in front of the NFI property, near Burnt Mill Road, should be extended to the signalized intersection at the Woodcrest Corporate Center entrance. Another section of sidewalk built on the north side of Woodcrest Road, would extend from Essex Avenue to a mid-block pedestrian crossing at York Avenue. These sidewalks should be a minimum of six feet wide, and would preferably be buffered from Woodcrest Road by a landscaped buffer. Figure 5 identifies additional location where new sidewalks should be constructed.

Additionally, any new developments within the study area should include minimum six foot wide sidewalks along the fronting roadway.

Figure 9. Examples of new sidewalks with landscaped buffer
Woodcrest Trail

Along the south side of Woodcrest Road, a half-mile paved multi-use path (also known as shared use paths) known as Woodcrest Trail should be constructed from Burnt Mill Road to Essex Avenue. This path should be a minimum of ten feet wide, excluding shoulders. The path could be built in the area between Woodcrest Road and Woodcrest Corporate Center and PATCO’s parking lots. Currently, these areas are landscaped buffers, with a minimum width of about 15 feet.

Woodcrest Trail would connect the proposed bike lanes along Essex Avenue on the PATCO property to a meaningful bike and pedestrian network, and eliminate the need for on-road bike infrastructure, like bike lanes, on Woodcrest Road. On the west side of Essex Avenue, the Woodcrest Trail could someday connect to an extended Cooper River Trail, which would connect the Woodcrest Station area to Cherry Hill and Camden County’s extensive parks system. The path should be anchored by a new ADA-compliant bike and pedestrian bridge over the PATCO tracks immediately south of Woodcrest Road (“Woodcrest Ramp, Stairs, & Plaza” on page 26).

Figure 10. Examples of multi-use paths
Additional considerations should be made for those walking or bicycling along Woodcrest Road. **Shade trees** should be planted and regularly pruned to maintain sightlines along the trail and roadway. Improved **pedestrian-scaled lighting** should illuminate the new sidewalks and path to allow for safe and easy travel in the evenings. **Informational or interpretative signage** may also be installed along the multi-use path to share the area’s industrial past, or highlight the importance of the new multi-modal improvements. **Trail distance markers** should also be considered, as part of a larger Township-wide trail initiative, to provide trail users with a sense of location in the event of an emergency, and to guide trail users toward destinations and amenities.

**Figure 11. Example of Pedestrian Amenities**

**Improve Pedestrian Crossings**

Safe new crossings must be established across Woodcrest Road to connect new housing in the Victory Redevelopment Area, offices around York Avenue, and other road users to Woodcrest Station. Although it is relatively narrow, Woodcrest Road currently acts as a major barrier to north-south movement within the study area. There are currently no pedestrian crossings or crosswalks in the half mile between Burnt Mill Road and Essex Avenue. Improved, signalized crossings at Essex Avenue, York Avenue, Victory Boulevard/Woodcrest Corporate Center Driveway, and Burnt Mill Road are detailed in the pages below.
Woodcrest Bridge

Central to Woodcrest Station’s accessibility issues are the PATCO tracks which divide the study area. While the existing roadway overpass features a sidewalk on its south side, it is narrow, unlit, and not ADA compliant. Additionally, the stairs that connect Woodcrest Road to the PATCO parking lot are less than satisfactory—they are steep, narrow, and unlit.

The Township, in conjunction with DRPA and Camden County should investigate a second Woodcrest Bridge, dedicated to pedestrians and cyclists, which would carry Woodcrest Trail over the PATCO tracks and provide a connection worthy of PATCO’s excellent service. By moving bike and pedestrian infrastructure off of Woodcrest Road, the street can continue to effectively carry large trucks and heavy traffic, and pedestrians and bicyclists can comfortably move between their homes and offices and Woodcrest Station. Woodcrest Bridge should incorporate pedestrian-level lighting, and could also include informational signage on the area’s industrial past or PATCO’s history.

Figure 13. Plaza Steps, Woodcrest Ramp, & Woodcrest Bridge Site Plan

Figure 14. Schuylkill River Trail Bike / Ped Bridge
Woodcrest Ramp, Stairs, & Plaza

Ramp

A wide ADA-compliant concrete ramp should connect Woodcrest Bridge and the Woodcrest Trail to PATCO’s Woodcrest Station. Two possible configurations should be considered: a straightway and a cutback. Both configurations are displayed on the site improvement plan Figure 13 (page 25). The straightaway has the advantage of providing a straight and direct path between Woodcrest Trail and Woodcrest Station. The gradual slope of the straightaway configuration is depicted in the rendering below. The main advantage of the cutback configuration is that the ramp could be built within the sloped buffer area between Woodcrest Road and the PATCO parking lots, leaving the area adjacent to the railroad tracks open for maintenance. Consideration should be given to the ramp and staircase being covered to protect pedestrians during inclement weather and reduce the need for maintenance during these events.

Figure 15. Plaza Steps and Woodcrest Ramp and Bridge
Either ramp configuration should be built of a non-slip surface, include pedestrian-scaled lighting, and feature a pergola-type gateway structure at the top. The pergola provides a visual terminus for the ramp, and ties the ramp to the trail.

**Staircase**

Immediately adjacent to the Woodcrest Ramp should be a new-and-improved staircase, known as Plaza Steps. Plaza Steps should be considerably wider than the current staircase, and could include generous landings, landscaping, and even areas for seating. Plaza Steps should feature attractive, pedestrian-scaled lighting. At the base of Plaza Steps, a generously wide path should guide commuters toward Woodcrest Station. By turning a lackluster piece of necessary infrastructure into an attractive central feature of the neighborhood, Cherry Hill, Camden County, and DRPA can encourage walking and transit use and provide a unique gathering place for an emerging transit-oriented neighborhood.
Traffic Safety Improvements
Traffic safety and calming improvements throughout the study area could improve road safety, increase traffic predictability, and reduce unnecessarily wide pedestrian crossings. The intersections of Woodcrest Road with Essex Avenue, York Avenue, and Burnt Mill Road could all be normalized, removing unnecessary slip-lanes or confusing turn lanes. Signage and rumble strips along Woodcrest Road could prompt drivers to maintain safe driving speeds.

Normalize Intersection at Essex and Melrose Avenue
As Woodcrest Road approaches Essex Avenue from the east, it should split into one Left Turn Only lane and one Straight-or-Right lane. Moreover, Crosswalks should be added to the east, south, and west sides of the intersections and pedestrian markings should be installed in the slip lane. Pedestrian markings should be installed in the slip lane. Finally, a bike box should be installed on the north bound segment of Essex Avenue so cars are aware of any bikes that will be making a left onto Melrose Avenue.

Figure 16. Essex Ave and Woodcrest Rd Intersection Diagram
**Improve York and Woodcrest Intersection**

Currently York Avenue intersects Woodcrest Road at an offset intersection—the two sides of York Avenue do not line up through the intersection.

There are two options that should be explored to make this a safer crossing for pedestrians and vehicles. As illustrated in Figure 18 and Figure 19 (page 31), the County and Township should explore turning the intersection into a signalized intersection or installing mid-block pedestrian crossings. In addition to making it safer for pedestrians, this may help regulate those making a left out of the parking lots and allow for more fluid exits during peak hours.

A small pedestrian island in Woodcrest Road - starting at the eastern corner of York Avenue as shown in Figure 19 (page 31) - would restrict left turn traffic between Woodcrest Road and York Avenue. Traffic exiting the PATCO lots via York Avenue would only be able to travel east.

The traffic impact of both alternatives should be evaluated. Either alternatives would provide a mid-block crossing, providing workers in the 10 Melrose Avenue building and other nearby offices with easy access to Woodcrest Station. At a minimum, the intersection should have “zebra-strip” style crosswalks, with pedestrian crossing countdown clocks. Zebra-stripe crosswalks have been found to be more easily visible to motorists, and encourage cars turning right to yield to crossing pedestrians. Countdown clocks have been found to reduce jaywalking and encourage safe crossing behavior. Motorists like these pedestrian countdown clocks as well—the clocks give them an idea of when the light will turn green again! Raised crossings may also be considered.

It should be noted that traffic flow on Woodcrest Road may also actually improve, as left turns from the Woodcrest Parking lot through the York Avenue exit would be prohibited.

**Figure 17. Examples of signalized pedestrian crossing**
Figure 18. York Ave and Woodcrest - Alternative 1
Figure 19. York Ave and Woodcrest - Alternative 2
Victory Blvd./WCC Driveway

The existing signalized intersection at the Victory Redevelopment Area and Woodcrest Corporate Center driveways should be improved to improve traffic flow and improve pedestrian safety. Pedestrian amenities similar to those suggested for the intersection of York Avenue and Woodcrest Road—zebra-striped crosswalks, pedestrian countdown timers, and pedestrian beacons—should be installed. Installing raised crosswalks parallel to Woodcrest Road, across the Victory site and Woodcrest Corporate Center driveways would act as de facto speed humps, requiring drivers to make turns at a slower, safer speed. Raised crossings increase visibility, yielding behavior, and create a safer pedestrian crossing environment.

Alternatively, speed cushions, spaced to allow the unimpeded passage of emergency vehicles and larger commercial trucks, could be installed on Woodcrest Road. A traffic study would need to be conducted to identify the best locations for these speed cushions. Proper signage would be required to alert motorists of the speed cushions.
**Burnt Mill and Woodcrest**

In recent years, the intersection of Burnt Mill Road and Woodcrest Road saw the highest number of car crashes in the study area. The right-turn slip lane from Burnt Mill Road onto Woodcrest Road should be considered for removal. Tightening the turn radius here would slow turning traffic, and reduce the total length of crosswalks across Burnt Mill Road.

On northbound Burnt Mill Road at Woodcrest Road, the left lane, which is currently marked as a Left-or-Straight lane, should be remarked as a Left-Turn-Only lane. Currently, cars hoping to continue straight on Burnt Mill Road get caught behind left-turning cars, and may veer into the right lane to get around the idling turn traffic. Given that Burnt Mill Road is a single-lane road up to this point, removing this second lane of through-traffic should not significantly impact traffic flows.
Improve Warnings and Safety

Woodcrest Road currently sees high-speed traffic and heavy truck use. Cars and trucks regularly speed over the PATCO tracks overpass, with little visibility of what lies ahead in the road. **Signage** denoting the limited visibility and rumble strips on both sides of the overpass ascent would encourage drivers to slow to a safer speed. Additional signage warning drivers of the signalized intersections and pedestrian crossings would give them sufficient time and space to slow down before approaching the crosswalks.

**Speed cushions** are another traffic safety improvement that should be explored. They are designed to allow the unimpeded passage of emergency vehicles and larger commercial trucks. NJDOT has adopted the engineering practices recommended for speed humps by ITE as the applicable design standard and practice for speed humps and all speed humps should be designed in conformance with all laws and standards. Transportation engineers should refer to the relevant ITE document for guidance.

**Rumble strips** are a road safety feature to alert inattentive drivers of potential danger, by causing a tactile vibration and audible rumbling transmitted through the wheels into the vehicle interior. They are often effective for alerting drivers to areas where they will need to pay special attention. Their major drawback is the amount of noise that they can produce, which can be bothersome to neighbors. The strips should be located in areas where the noise would have no impact on adjacent properties.

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**Figure 22. Safety Measures**

*Speed cushions slow car traffic without impeding emergency vehicles.*

*Source: Barco Products*

*On-road rumble strips.*

*Source: FDOT*

*Speed cushions.*

*Source: nacto.org*

*Pedestrian Signal.*

*Source: roadtrafficsigns.com*
PATCO Property Bike Improvements

In order to further encourage bicycling and use of the Woodcrest Trail and Woodcrest Bridge, DRPA/PATCO should make two important improvements on their property—implement the planned bike lanes along Essex Avenue and install a second set of bike racks inside Woodcrest Station.

Essex Avenue Bike Lanes

DRPA plans to paint bike lanes on Essex Avenue, from Woodcrest Road south to the station entrance. This plan supports these new lanes, and recommends the usage of “buffered bike lanes” where possible. Buffered bike lanes use two painted line to provide a painted buffer area between the bike lane and car lane. A bike box should be painted at Essex Avenue’s intersection with Woodcrest Road. This bike box will allow bicyclists who are continuing west along Woodcrest Road into Lawnside are able to get in front of left-turning traffic while it is stopped at the red light.

Figure 23. Bike Infrastructure
**Indoor Bike Racks**

PATCO has done an exemplary job installing bike racks within many of their system’s stations. Woodcrest Station currently has a set of bike racks directly outside of Woodcrest Station. These racks are convenient for bicyclists and are visible from Woodcrest Road, but they do not provide any protection from weather or theft.

A second set of bike racks should be installed inside Woodcrest Station. Indoor bike racks would protect bicycles from the elements and provide an additional level of protection from theft. There is room inside the station for bike racks both in front of and behind the PATCO fare gates. PATCO has installed bike racks behind the fare gates at a number of their stations, including 15th/16th and Locust Street and Camden City Hall.

*Figure 24. Indoor Bike Rack Locations*

(Top) Space for bike racks inside station, in front of fare gates.

(Middle) Space for bike racks behind fare gates.

(Bottom) Existing bike racks at 15th-16th and sixteenth and Locust Street.
Services, Maintenance, and Safety Improvements

In addition to physical bike, pedestrian, and traffic improvements, access to Woodcrest Station could be greatly improved with new local transit services and dedicated maintenance. An area shuttle could improve access between nearby Woodcrest Station and nearby jobs and housing developments. Explicitly assigning each portion of the improved bike and pedestrian network to a specific snow removal steward should ensure that bike and pedestrian connections are kept open through winter storms.

Explore a Commuter Shuttle

Currently, Xerox provides their employees a commuter shuttle between their office within the Woodcrest Corporate Center and Woodcrest Station. This shuttle is funded privately by Xerox and operated by the South Jersey Transportation Authority (SJTA). SJTA operates a number of public and private shuttles throughout South Jersey, on top of managing the Atlantic City Expressway and Atlantic City International Airport.

Area employers and housing development owners should coordinate to provide a commuter shuttle bus to provide easier access to Woodcrest Station. Such a shuttle could serve Woodcrest Corporate Center and its tenants, NFI, the Victory Redevelopment Area, the 10 Melrose Avenue office building, and the UPS facility in Lawnside. The shuttle could also potentially continue up Burnt Mill road to the Woodcrest Shopping Center, connecting employees and residents to retail and dining options. Combining resources to fund this shuttle should maximize efficiency and provide an alternative means of accessing Woodcrest Station during the trail and bridge’s construction or in inclement weather.

As redevelopment continues in the area, use of the underutilized parking spaces at Woodcrest Shopping Center could provide an alternative to parking at the Woodcrest Station. An added benefit of using parking at the shopping center is that it would reduce the traffic demand along Burnt Mill Road, an issue that was highlighted in the public meetings.

Figure 25. Potential Shuttle Route & Stops
Delegate Snow Removal

A well-connected and safe network of walking and biking paths is useless if it is not properly maintained. Regardless of how well the Plaza Steps and bridge are designed and constructed, if they are covered in snow they will provide little benefit to commuters, and may pose potential injury hazard. It is vital that each section of this network has a steward agency explicitly responsible for preparation before snow storms and for snow removal.

Woodcrest Station Path & Plaza Steps

PATCO has in-house capabilities to remove up to eight inches of snow and ice accumulation. DRPA contracts out snow removal services for severe winter weather events with snow accumulation over eight inches. DRPA/PATCO should consider expanding their snow removal services beyond their parking lots and roadways to clear a five-foot wide path from Woodcrest Station to the proposed Plaza Steps. In the meantime, DRPA/PATCO and the Township should work together to address any liability concerns regarding snow removal of the current staircase. As illustrated in Figure 26, DRPA currently puts a chain across the steps in an attempt to block people from using the stairs when snow has accumulated. This is an ill-advised strategy. Users end up walking down the side of the hill and place themselves in more danger.

An open-sided canopy built to protect pedestrians from inclement weather should be considered for the ramp and steps to reduce dangerous conditions for pedestrians. If necessary, the ramp and steps should be salted or sanded prior to any winter weather event to minimize accumulation before snow removal can occur.

Woodcrest Trail & Bridge

As the new multi-use Woodcrest Trail is located along a county route, Camden County should consider taking responsibility for its maintenance. Camden County could pledge to remove snow on the Woodcrest Trail and Bridge at least between York Avenue and the Victory/Woodcrest Corporate Center driveway intersection.

Other Area Sidewalks

Cherry Hill Property owners are responsible for the removal of snow within 48 hours of daylight following a snowfall. The Victory site developer should identify the entity who will be responsible for clearing all sidewalks within the Victory property as well as along their fronting portion of Woodcrest Road’s north side. NFI and the Woodcrest Corporate Center are responsible for the sidewalks along their boundary of their property. As more pedestrians begin to use this area, it will be important that snow removal happens in a timely manner. A coordinated effort to remove snow may result in cost savings for all property owners. Such an arrangement would have to be made between property owners.
The following expresses the Township’s vision, based on extensive public input, for how the area should address redevelopment going forward. This vision should be used to create a regulatory framework that will guide development on these sites.

Vision
Building off improved connections to PATCO’s Woodcrest Station, I-295, and nearby job hubs, the Victory Redevelopment Area will emerge as a walkable, mixed-use neighborhood with housing, open space, and shopping and dining options. Victory Redevelopment Area will become Cherry Hill’s first true transit-oriented development. By incorporating a pleasant and comprehensive network of sidewalks and trails throughout the site and to Woodcrest Station, city commuters will no longer be forced to make the daily drive into Philadelphia. By providing space for convenient nearby restaurants and services, the residents of Victory West and nearby workers could enjoy a meal, pick up their dry cleaning, or grab a cup of coffee without ever getting in their cars. The requirements of this Redevelopment Plan for architecture, site planning, network connectivity, and land uses will ensure that the Victory Redevelopment Area becomes the transit-oriented jewel of Cherry Hill Township.

The Redevelopment Area will be developed in two phases: Victory West and Victory East, as illustrated in Figure 27.

Victory West

Figure 27. Victory East and West
Victory West’s six handsomely-appointed apartment buildings, housing 370 rental units in total, will draw millennials, young professionals, and empty nesters alike to this corner of Cherry Hill. The attractive, pedestrian-scaled apartments of Victory West will be oriented toward the area’s sidewalks and roadways, rather than toward its parking lots, to encourage walking and friendly interaction. The building configurations on the property will frame the roadways, creating truly enjoyable public spaces reminiscent of the “outdoor rooms” found in the most desirable portions of Old World cities. The connected nature of the internal sidewalk and road networks will make walking to Woodcrest Station a breeze, and ensure that Victory West is well-connected to the services and amenities across the site.

A significant portion of the area will be dedicated to both public and private open space and community facilities—including a clubhouse, pool, dog park, and central green—wetland conservation, and attractive landscaping. More than a mere apartment complex or housing development, Victory West will be a cohesive neighborhood, providing high-quality housing within walking distance from some of the best transit service in the Greater Philadelphia region, while meeting the Township’s Fair Housing obligations.

Victory East
Victory East should develop as a walkable and attractive complement to the surrounding area. With strong connections to the adjacent Victory West neighborhood, PATCO’s Woodcrest Station, and neighboring job hubs, proposed permitted uses such as restaurants, shops, hotel, and/or entertainment venues of Victory East could serve both area residents and workers. At the assisted care living facility, Cherry Hill residents will be able to age in place with dignity, and just a short shuttle ride or walk from all that Philadelphia has to offer. A comprehensive network of wide sidewalks and trails should ensure that the entire site is easily accessible from Woodcrest Road and Woodcrest Station. Wide, lushly landscaped buffers should screen the sights and sounds of the New Jersey Turnpike and the NFI shipping facility from the residents, commuters, and shoppers within the Victory Redevelopment Area.

The exciting and dynamic offerings of the Victory Site has the potential to make this corner of Cherry Hill a destination for the entire region, while also serving the daily needs of new residents and existing nearby workers.


