

Section 3.....Needs Assessment

A Plan for South Franklin Township & Green Hills Borough

The purpose of Part 3: Needs Assessment is to analyze the baseline data that was provided through Part 1: Area Profile and identify potential needs and issues that should be addressed in order to achieve the Vision that was established in Part 2: The Vision. The Needs Assessment serves as a foundation for the recommendations and implementation strategy that is outlined in Part 4: Implementation Plan. Field views and site visits combined with input received through steering committee meetings, stakeholder interviews, public surveys, and public meetings acted as a means for gathering a variety of issues that the Project Area is likely to face in the future.

- ❖ **Historic Resources Needs**
- ❖ **Natural Resources Needs**
- ❖ **Transportation Needs**
- ❖ **Land Use Needs**
- ❖ **Residential Development Needs**
- ❖ **Economic Development Needs**
- ❖ **Community Amenities Needs**
- ❖ **Energy Conservation Needs**

Historic Resources Needs

The Project Area has a rich history that residents would like to see preserved and/or promoted for future generations. In particular, many cited small, family cemeteries as being important to the local history of the region and a need to have these identified, promoted, and preserved in some manner.



Although not listed on the National Register, historic farmhouses such as this one are common throughout the Project Area (Mackin 2008).

TABLE 3.1: HISTORIC RESOURCES NEEDS	
Category	Identified Need or Issue
Historic Resources	Historic sites within the Township need to be preserved and recognized.
Historic Resources	Family cemeteries are in disrepair and in danger of being lost.

Structures & Sites

Residents have identified the Kelly House, Clark House, and Walker House as priorities for preservation within the Project Area. Of these, only the Kelly and Clark houses are eligible for National Register status; the Walker property's status is currently undetermined. These homes demonstrate the rich pioneer and agricultural heritage of the Township and surrounding region, and are an important thread in the history of Washington County.



Clark House (Mackin 2008).

The main issue with preserving the Kelly, Clark, and Walker homes is that these homes remain privately owned. As private property, it is ultimately up to the owner to decide what to do with the structure or site. Rehabilitating a property can be expensive, and property owners are not always aware of the benefits available to them through listing on the National Register. In many cases, owners are just not interested in pursuing what they perceive as an inconvenience.

Although its status as a National Register eligible property is currently undetermined, the Walker property deserves special attention for preservation. The Walker family played an important role not only in the history of the Project Area and Washington County, but also in the history of the country. The pioneering flights of Joseph Walker helped pave the way for future development in aviation and space flight. His contributions are an important aspect of the Project Area's rich history. Finding ways to preserve and celebrate his legacy is a priority for the future.

Cemeteries

To many, cemeteries are an important link to the past, providing historical and genealogical data, information on settlement patterns, burial practices, etc. Many of the Project Area's historic burial grounds are in poor condition, with considerable vegetative overgrowth, overturned stones, unreadable inscriptions, or unmarked graves. Recent



Historic cemetery along Old Post Road (Mackin 2008).

renewed interest in genealogy, as well as a desire to preserve the rich heritage of Southwestern Pennsylvania, have made documenting and maintaining these burial sites a concern for the Project Area, both among area residents as well as outsiders. For locations of some identified historic cemeteries (though by no means comprehensive), please see *Map 1.4: Existing Land Use*.

Natural Resources Needs

Residents and visitors alike praise the abundant green space and wooded areas that permeate much of the Project Area. Both Green Hills Borough and South Franklin Township enjoy a lush, picturesque rural setting. Gently rolling hills, historic farms, and a largely undeveloped amount of land create an eighteenth-century landscape that is at the core of the Project Area's appeal. However, as demographic and building permit data demonstrate, there has been a marked increase in population, and development pressure is only likely to grow as the Washington area continues to expand. In response to that, residents and elected officials have voiced some concerns regarding the natural resources of the Project Area.



Reservoir #4 (Mackin 2008).

TABLE 3.2: NATURAL RESOURCES NEEDS	
Category	Identified Need or Issue
Natural Resources	Flooding along Project Area streams and stormwater management
Natural Resources	Coal companies own large amounts of land in the Project Area, which could cause future negative impacts on the communities.
Natural Resources	An increased number of oil and gas wells may impact the Township.

Flooding and Stormwater

The Project Area faces the challenge of managing two major stream corridors: Ten Mile and Chartiers. Chartiers parallels SR 18 throughout most of the Project Area; Ten Mile runs parallel to SR 221. Due to the greater intensity of development along SR 18, numerous runoff and storm water issues related to Chartiers have developed for South Franklin Township.

Act 167

Act 167, the Pennsylvania Stormwater Management Act, requires counties to prepare and adopt a stormwater management plan for each watershed in the county. Each municipality must then regulate development in a manner consistent with the applicable watershed's stormwater plan, through means such as zoning ordinances, subdivision and land development ordinances, building codes, and erosion and sedimentation ordinances. Municipalities can and should work jointly to develop these regulations. The cost to prepare these plans can be a concern, especially when local municipalities within the watershed are not held responsible for non-compliance. What this means is that if any one municipality within a watershed decides to opt out of adopting the recommended strategies and ordinances, the stormwater management plan is not helpful. Currently, Washington County is working to develop its Act 167 Plan. In June 2008, the County completed Phase I: Scope of Survey. The focus of Phase I was to provide the County and its municipalities with an accurate and consistent plan implementation strategy and to outline procedures for stormwater management. Specifically, Phase I examined:

- ❖ Specific watershed characteristics and hydrologic conditions
- ❖ Stormwater-related problems and significant stream or tributary obstructions
- ❖ Alternative measures for control

Phase II will include more tools for managing stormwater, including detailed technical information, and strategies for implementations such as model ordinances and codes. Phase II is currently underway; however, completion dates are unknown at this time.

As part of Phase I, the Watershed Plan Advisory Committee formed. It is comprised of representatives from every municipality in the County. The Committee worked with the County to identify current conditions in watersheds. Problem areas in South Franklin Township as identified by the Watershed Plan Advisory Committee (WPAC) are below.

- ❖ Intersection of Bedillion Road and Vista Valley Road- flooding
- ❖ Vista Valley Road- flooding
- ❖ Crestmont Road- flooding

WPAC did not identify any problem areas in Green Hills Borough.

In addition, WPAC also distributed an Information Request Form to all of the municipalities. The form's purpose was to solicit feedback relative to specific problem areas within their individual municipality that can then act as a base for identifying storm water needs in Washington County. Green Hills Borough did not respond. In South Franklin Township, the following topics were ranked on a scale of 1 to 5 (1 being not important at all and 5 being very important):

- ❖ Peak flow rates: 5

- ❖ Water quality: 4
- ❖ Groundwater recharge: 4
- ❖ Stream erosion: 5
- ❖ Flooding: 5
- ❖ Support project: 4

In addition, South Franklin officials indicated that the Township is facing stormwater issues, South Franklin indicated that they have incorporated erosion and sediment control (E and S) regulations into their Subdivision and Land Development Ordinance (SALDO) and that they address floodplains in their zoning ordinance through the administration of a floodplain district. Currently there are no stormwater regulations in place, however.

Coal Resources

Currently, Consolidation Coal Company owns approximately 2,379 acres of land within South Franklin Township most of which is open space or wooded. The majority of this land is located in large parcels along Farmer Lane, but they also own considerable acreage along Old Scales, Vista Valley and Bedillion Roads. Currently, portions of southern South Franklin Township have been permitted for long wall coal mining and active mining is expected within the next five years. Many residents have expressed concern over future mining of these properties and possible impacts it may have on the community, particularly since Consol plans to begin mineral extraction activities within the next five years (Stakeholder Interview with Township Supervisor, 2009). The primary impact of long wall mining on communities is that of subsidence. In nearby municipalities, long wall mining has damaged residences, farms, roads, and bridges. It can cause slumping or shifting of land, which in turn can compromise foundations and disrupt road services and utility lines. It can also cause aquatic resources, including streams, ponds, and lakes, to disappear or become damaged.

Elected officials and residents alike have voiced their hope to see Consol work more closely with the South Franklin Township to ensure that there is a clear line of open communication between the two. Residents need a means for finding out Consol's future planned activities, possible impacts, measures taken to lessen these impacts, and a means for airing concerns or asking questions. It is important to find a way not only to lessen resident concerns about mineral extraction activities, but also to maintain an open and positive relationship between South Franklin Township and Consol.

Oil & Gas Wells

Oil and gas wells can pose threats to communities, particularly concerning the impacts on roads due to the use of heavy equipment. South Franklin Township recently adopted an ordinance to require mandatory road bonding when oil and gas wells activity is occurring. This will assist the Township in ensuring that oil and gas well companies repair any damage that takes place due to truck or equipment traffic associated with their activities. However, it should be noted that the amount of road bonding permitted by current state regulation does not typically cover the actual cost of damage done to area roadways. Because oil and gas well drilling is regulated at the state level, this is a state issue that must be handled by revisions to the current Oil and Gas Act.

A secondary concern is wells. The fracturing process for a Marcellus shale well typically uses an average of 2 to 9 million gallons of fresh water per well (Susquehanna River Basin Commission). Given the techniques involved in extracting from the Marcellus shale, the integrity of many water wells could be compromised and this could

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potentially have damaging repercussions to underground sources of drinking water. However, it is important to remember that according to industry personnel, deep gas drilling is a far riskier and involves larger boreholes and cleared areas, resulting in a greater chance for environmental impact. Shallow drilling, on the other hand, involves much less waste and can be confined to very small areas with little environmental impact (Pennsylvania State University Cooperative Extension). However, the Oil and Gas Act provides regulations for replacement of water sources with an alternate supply should they become comprised as a result of drilling (<http://www.pacode.com/secure/data/025/chapter78/chap78toc.html>).

Finally, it is vital that the landowner understand that oil and gas leases are legal and binding documents. They are contracts and represent an official written agreement between two parties, the gas or oil company and the landowners. Because leases are binding contracts, it is important that landowners protect their rights and have all proposed leases reviewed by attorneys who specialize or are knowledgeable in the area of oil and gas well regulation. The ultimate power to protect property rights ultimately rests with the property owner. Education is vital. The Penn State Cooperative Extension offers many services to landowners. More information can be found by contacting their office or by visiting the web site at <http://naturalgas.extension.psu.edu/>.

Transportation Needs

Residents and community stakeholders agree that the Project Area is fortunate to benefit from an ideal location, in close proximity to both major employment centers and destination retail shopping and other commercial amenities. It is agreed that the condition and suitability of most roads is adequate in regard to current conditions. Indeed, many residents praise the maintenance of Township roads. However, some issues should be addressed. With significant amounts of possible development in the future, it is important that a community be able to meet its transportation needs in an equitable and efficient manner so that current residents and businesses will be able to maintain a high quality of life and easy accessibility. It is also important to address these issues so that future development efforts are not hindered by a lack of adequate transportation options.

TABLE 3.3: TRANSPORTATION NEEDS

Category	Identified Need or Issue
Flooding and Stormwater Runoff	Lagonda Road
Intersection	Jolly School Road, Lagonda Road, and SR 18
Intersection	Jolly School Road and Old Plank Road
Intersection	Old Post Road, Pikes Peak Road, SR 18
Intersection	Mounts Road and SR 18
Intersection	Cove Road and Lagonda Road
Intersection	SR 221 and Van Neal Drive
Future Road Conditions	Jolly School Road and SR 18
Bicycle Trails & Pedestrian Pathways	Lack of adequate bicycle pathways and pedestrian trails and walkways

Flooding and Stormwater Runoff

Flooding and stormwater runoff is an issue along many of the local roads within the Project Area, particularly Bedillion Road, Vista Valley Road, Lagonda Road, and Crestmont Road.

Intersections of Concern

Through diligent work with Steering Committee members and resident feedback, several intersections were identified as potentially dangerous. These intersections pose concerns due to issues such as steep grades, limited sight distances, lack of appropriate signage, or concerns for future traffic loads due to possible residential and commercial development. A scoping field view utilizing traffic engineers was conducted of these intersections and roadways. Current road conditions, including road width, pavement markings, weight limits, speed limits, bridge conditions, and sight distances were measured, recorded, and analyzed. The results of this process are summarized below.



Jolly School, Lagonda, and SR 18 intersection (Mackin 2009).

Jolly School Road, Lagonda Road, and SR 18

The intersection of Jolly School Road, Lagonda Road, and SR 18 in South Franklin Township has been identified as a safety issue by residents. The intersection of SR 18 and Lagonda Road is slightly offset from the intersection of SR 18 with Jolly School Road, which is also slightly offset with the intersection of SR 18 with Old Plank Road. This is an undesirable condition, as it creates numerous conflict points. A realignment of these two routes would be necessary in order to produce a safer intersection. In addition, there is no delineation between the parking lot of the Jolly School Pizza Restaurant, Old Plank Road, and SR 18, which creates a dangerous situation for drivers as well as pedestrians.



Old Plank Road where it intersects with Schoolhouse Pizza parking lot and SR 18 (Mackin 2009).

Jolly School Road and Old Plank Road

The Fire Station parking lot along the northern side of Jolly School Road is wide open to Jolly School Road, i.e. access is not limited. Also, at the time of the field view, Jolly School Road had double yellow center line and white edge lines pavement markings from SR 18 for approximately 400 feet and then they stopped. The rest of Jolly School Road had no pavement markings.

Old Post Road, Pikes Peak Road, and SR 18

The intersection of Old Post Road, Pikes Peak Road, and SR 18 in South Franklin Township has been identified as a safety issue by residents. The current configuration of the intersection consists of Pikes Peak Road and Old Post Road meeting in a Y formation on the eastern side of SR 18. Currently, Pikes Peak Road intersects Old Post Road at a stop sign and then Old Post Road intersects SR 18 at a stop sign, all within one hundred feet. Looking to the right from

Pikes Peak Road onto Old Post Road, the sight distance is limited due to the crest of the hill.

Mounts Road and SR 18

The corner sight distance looking to the right from Mounts Road appeared to be limited due to trees and weeds along the right side of the road. The measured corner sight distance was 561 feet. Based on the 45 MPH speed limit of SR 18, a stopping sight distance of at least 376 feet would be acceptable based on PennDOT standards. Therefore, a sight distance problem does not exist here.

Cove Road and Lagonda Road

Back to back “No Left Turn” signs were located on Lagonda Road between Cove Road and Alamae Lakes Road next to a residential driveway, making the residential driveway right-in-right-out only. These signs are not installed in accordance with PennDOT Publication 236. It is also not appropriate to have a residential driveway signed as right-in-right-out. Therefore, these signs are confusing to the driver and should be considered for removal.



“No Left Turn” signage on Lagonda Road near its intersection with Cove Road (Mackin 2009).

The corner sight distance looking to the left from Cove Road appeared to be limited due to a large bush and some trees along the left side of the road. The measured corner sight distance was 190 feet. Based on the assumed speed limit of 30 MPH on Lagonda Road, a stopping sight distance of at least 199 feet would be acceptable based on PennDOT standards. Therefore, a sight distance problem does exist here.

In addition to the sight distance issue, the approach grade of Cove Road is extremely steep, making it difficult for a stopped vehicle on Cove Road to start up again. With increased traffic due to the Franklin Lakeview Estates Development, this lack of sight distance could turn into a possible problem. Since it is expected that much of the anticipated new residential development in the Project Area will occur in this vicinity, it is vital that this issue be addressed so that additional traffic created by new development will not exacerbate the problem.

SR 221 and Van Neal Drive

The corner sight distance looking onto SR 221 (to both the right and left) from Van Neal Drive appears limited. To the right, the crest of the hill of SR 221 is the obstruction. To the left, an embankment and a tree are the obstruction. The measured corner sight distance looking to the right was 435 feet. Based on the 40 MPH speed limit of SR 221, a stopping sight distance of at least 331 feet would be acceptable based on PennDOT standards. Therefore, the sight distance looking to the right is sufficient. The measured corner sight distance looking to the



SR 221 at Van Neal (Mackin 2009).

left was 357 feet. Based on the 40 MPH speed limit of SR 221, a stopping sight distance of at least 287 feet would be acceptable based on PennDOT standards. Therefore, the sight distance looking to the left is also sufficient.

Future Road Conditions

Future Development

In order to assess and understand the future traffic conditions in the Project Area, potential development scenarios must be analyzed. For purposes of this study, the scenarios were developed for ten years into the future in order to answer the question “Where are we going?” One development scenario assumed “full build-out” of both Lone Pine Estates and Franklin Lakeview Estates, in addition to an estimated average annual growth rate (based upon Census data, projections from Southwestern Pennsylvania Commission, and PennDOT’s Traffic Handbook). The other scenario assumed “no build;” that is, it only accounted for the average annual growth rate and did not take into account Lone Pine Estates and Franklin Lakeview Estates.

Traffic is a significant factor when addressing the impact of Franklin Lakeview Estates upon the Project Area. Obtaining more than one access point for the development is proving difficult, as the developer does not own enough property along Lower Cove and Cove Roads to provide additional access points to the development; currently the only road in and out of the development will be along Scenic Drive.

The impacts of these scenarios upon daily traffic on SR 18 and local Project Area roadways is discussed below.

Methodology

In order to project future traffic conditions, Mackin assumed a worst case scenario in which the following two proposed developments are fully built by the year 2019:

1. Lone Pine Estates – 495 housing units; and
2. Franklin Lakeview Estates – 900 housing units

In this scenario, Lone Pine Estates is assumed to be located within Green Hills Borough and is assumed to have two (2) access points; one onto SR 3014 (Van Neal Road) and the other onto SR 18 using the existing Lone Pine Golf Course driveway. Franklin Lakeview Estates is assumed to be located in North Franklin Township along reservoir #4. It is assumed to have access to SR 2007 (Scenic Drive) only.

The following two (2) conditions were analyzed:

- ❖ No Build Scenario – The No Build Scenario assumed that these two developments are not built at all by Year 2019. However, other background growth does occur; and
- ❖ Build Scenario – The Build Scenario assumed that both developments are fully constructed by 2019 and additional annual growth occurs.

Current Traffic Conditions (2009)

For analysis purposes, nine (9) roadway segments or links were analyzed to determine what, if any, the impacts of these scenarios would have happen their daily traffic volumes. The nine (9) roadway segment locations, their AADTs (Annual Average Daily Traffic), and DHVs (Design Hour Volumes) for the existing (2009) and design years (2019) are shown in [Table 3.4: Roadway Segments and Traffic Volumes](#). The Design Hour Volume (DHV) can

be described as the volume of traffic that occurs during the one hour with the highest volume of the day. This usually occurs around 5:00 PM, and it is the basis of which all traffic analyses are conducted.

TABLE 3.4 ROADWAY SEGMENTS AND TRAFFIC VOLUMES

Link #	Route	From	To	2009 ADT	2009 DHV	Annual Growth	2019 No Build DHV
1	PA Route 18	SR 2007	SR 3008	8298	747	0.5%	784
2	PA Route 18	SR 3008	SR 3014	5744	574	0.5%	603
3	PA Route 18	SR 3014	SR 3020	3519	387	0.5%	406
4	SR 2007 (Scenic Dr)	PA Route 18	SR 3015	1347	148	0.5%	156
5	SR 2007 (Scenic Dr)	SR 3015	SR 3008	702	77	0.5%	81
6	SR 3008 (Jolly School Rd)	SR 3011	PA Route 18	959	96	0.5%	101
7	SR 3008 (Lagonda Rd)	PA Route 18	SR 2007	925	93	0.5%	97
8	SR 3014 (Van Neal Dr)	PA Route 221	PA Route 18	250	25	0.5%	26
9	SR 3015 (Cove Rd)	SR 2007	SR 3008	269	30	0.5%	31

Source: PennDOT 2009

As the table illustrates the no-build scenario results in little change in DHV. The busiest segment of SR 18 (the northernmost portion near the border with North Franklin Township) sees an increase of less than 40 vehicles during the peak DHV. These minor increases are assumed to occur regardless of any pending major developments.

Trip Generation Assumptions

To calculate the number of trips that each projected future development could produce, Mackin utilized the Institute of Transportation Engineers' (ITE) Trip Generation Handbook, 7th Edition. For both developments, it was assumed that 60% of the housing units would be single-family detached housing and 40% would be residential condominium/townhouses. Note that a trip is considered to be a vehicular movement into or out of the development.

The resulting trips are anticipated to be generated by the two (2) developments at Full Build-Out:

- ❖ Lone Pine Estates - 392 trips generated in the peak hour; and
- ❖ Franklin Lakeview Estates - 661 trips generated in the peak hour

Summary of Generated Trips, Distribution & Traffic Volumes

Mackin made several assumptions as to how these generated trips would be distributed onto the local roadway network. These assumptions were based on existing traffic volumes of the nine (9) links, mapping of the surrounding area, and engineering judgment. The following new proposed 2019 Build Out traffic volumes were developed, as can be seen in [Table 3.5: Trip Generation and Distribution](#).

TABLE 3.5: TRIP GENERATION AND DISTRIBUTION

Link #	Route	2019 No Build DHV	Estimated Trips due to Lone Pine Estates	Estimated Trips due to Franklin Lakeview Estates	2019 Build Out DHV	Traffic Volume Growth due to Developments
1	PA Route 18 N	784	220	100	1104	41%
2	PA Route 18 C	603	260	188	1051	74%
3	PA Route 18 S	406	101	172	679	67%
4	SR 2007 (Scenic Dr) N	156	0	470	626	302%
5	SR 2007 (Scenic Dr) S	81	0	191	272	236%
6	SR 3008 (Jolly School Rd)	101	16	63	180	78%
7	SR 3008 (Lagonda Rd)	97	24	151	272	180%
8	SR 3014 (Van Neal Dr)	26	130	16	172	556%
9	SR 3015 (Cove Rd)	31	0	151	182	486%

As the table clearly shows, the most significant impacts from the assumed developments will occur on Scenic Drive, Cove Road, and Van Neal Road. This is primarily because these are small local roads that see virtually no traffic now; any amount of development will result in increased volumes. It does not necessarily mean these roads are over-burdened. It is also worth noting that the two middle segments of SR 18 (in the vicinity of Lagonda Road down to the entrance to Franklin Manor) are expected to see a 74% increase in volume and a 67% increase in volume, respectively, if both developments occur. Finally, it should be taken into consideration that many users may utilize shortcuts, including the common route of taking Jolly School Road to Mounts Road to I-70.

Two-Lane Capacity Analysis

All of the roads within the study limits can be described as two-lane highways. A two-lane highway is defined as an undivided roadway with two lanes, one for use by traffic in each direction. Passing a slower vehicle requires the use of the opposing lane as sight distance and gaps in the opposing traffic stream permit. As volumes and geometric restrictions increase, the ability to pass decreases and cars begin to form clusters. Motorists in clusters are subjected to delay because they are unable to pass. The primary measures of service quality for two-lane highways are percent-time-spent-following and average travel speed.

Mackin analyzed each of the nine (9) roadway segments under both the no-build and full-build-out scenarios in 2019. The Design Hour Volumes from Table 3.5 were used. The measure which is used to define how well traffic conditions are operating is called Level-of-Service (LOS). Thus, LOS for two-lane roads is defined in terms of percent-time-spent-following and average travel speed. A LOS of "A" describes the highest quality of traffic service, when motorists are able to travel at their desired speed. A LOS of "F" represents heavily congested flow with traffic demand exceeding capacity and speeds highly variable. Generally, LOS of "A," "B," and "C" are acceptable levels of service while "D," "E," and "F" are considered unacceptable.

The resulting Levels-of-Service are presented in Table 3.6 Levels-of-Service.

TABLE 3.6: LEVELS OF SERVICE

Link #	Route	From	To	2019 No Build LOS	2019 Build Out LOS
1	PA Route 18	SR 2007	SR 3008	C (67.0)	D (74.4)
2	PA Route 18	SR 3008	SR 3014	C (61.1)	D (73.2)
3	PA Route 18	SR 3014	SR 3020	B (53.9)	C (64.0)
4	SR 2007 (Scenic Dr)	PA Route 18	SR 3015	A (20.2)	B (50.1)
5	SR 2007 (Scenic Dr)	SR 3015	SR 3008	A (11.6)	A (31.7)
6	SR 3008 (Jolly School Rd)	SR 3011	PA Route 18	A (14.0)	A (22.7)
7	SR 3008 (Lagonda Rd)	PA Route 18	SR 2007	A (12.8)	A(30.2)
8	SR 3014 (Van Neal Dr)	PA Route 221	PA Route 18	A (4.8)	A (21.9)
9	SR 3015 (Cove Rd)	SR 2007	SR 3008	A (5.4)	A (22.9)

Number in parentheses is Percent Time Spent Following

Bold denotes a drop in LOS from No Build Conditions

Red denotes an undesirable condition where the LOS is at a D or lower.

As can be seen in [Table 3.5](#) if both developments are fully built by 2019, the LOS could be expected to drop one level on all three (3) SR 18 segments, as well as on the SR 2007 (Scenic Drive) segment.

Additionally, the LOS is expected to drop to a LOS D on SR 18 in between SR 3014 and SR 2007 (Links 1 and 2). A LOS of D is generally not considered desirable by PennDOT in rural areas. Therefore, if these developments are fully built by 2019, and additional development is threatening, SR 18 should be considered for future widening, especially north of SR 3014 (Van Neal Road) and the Lone Pine Estates development. Transportation Impact Fees that focus on improvements to SR 18 can assist the municipalities in handling this drop in service level.

It is also noteworthy that impacts upon local roads (Scenic Drive, Jolly School Road, Lagonda Road, Van Neal Drive, and Cove Road) are virtually non-existent. They will maintain an "A" LOS even with full build-out.

Traffic Signal Warrant Analysis

The intersection of SR 18, SR 3008 (Lagonda Road), and SR 3008 (Jolly School Road) is probably the busiest intersection within South Franklin Township and Green Hills Borough. With increased development, this intersection is anticipated to have increased traffic volumes. Based on the 2019 No Build and Build-Out traffic volumes provided in [Table 3.4](#) above, Mackin conducted traffic signal warrant analyses at this intersection, utilizing the peak hour warrant provided in the Manual of Uniform Traffic Control Devices (MUTCD). Based on this analysis, it was determined that a traffic signal is not warranted at this intersection today, nor would it be warranted in 2019 no-build conditions. However, the traffic volumes do meet the warrant in 2019 full build-out conditions.

Conclusions

In order to maintain an acceptable level of service for motorists within the study area, the most obvious recommendation would be to control the number and types of development that are allowed to establish themselves within the Project Area borders by completing specific corridor management strategies. These strategies should focus on adequate land use controls, including appropriate zoning for the corridor, agricultural and land

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preservation techniques, protecting flood-prone areas through riparian management, and managing future road improvement needs that result from residential growth through Transportation Impact Fees.

If left uncontrolled, under a worst-case scenario, one could expect a need for widening of the SR 18 corridor in the northern portion of South Franklin Township in the foreseeable future to maintain an acceptable level of service for motorists. Additionally, plans should be considered for the eventual need for a traffic signal and realignment of the SR 18/Lagonda Road/Jolly School Road intersection. As stated before, the costs for these improvements should be mitigated through Impact Fees.

Due to environmental, geometrical, or utility constraints, widening to four lanes may not be feasible in certain sections. Another option is to widen to three lanes, one in each direction, plus a two-way left-turn lane that can be used to create left turn lanes at intersections. The problem with this is that it does not improve capacity very much, as there would still be only one travel lane in each direction. What this does is improves safety a great deal, by removing the left turning vehicles from the traffic stream.

Bicycle Trails and Pedestrian Pathways

Residents have expressed the need for an area where those who wish to can walk, jog, or bicycle through the residential portions of the Project Area. Currently many find it difficult or dangerous to do so because of a lack of sidewalks or trails. It is likely that the demand for these services will increase as the Project Area experiences continued residential growth. In particular, medium and high-density residential developments should provide for adequate pedestrian mobility. The current Subdivision and Land Development Ordinance (SALDO) for South Franklin Township does not require pedestrian connections. Maintenance and cost are both significant factors for new pedestrian pathways and walking trails. In addition, there is often a lack of space for walking and bicycle trails, particularly along transportation right-of-ways such as SR 18, which has narrow shoulders and portions of which lie in a floodplain. However, this should not deter the Township from paying special attention to ensuring that adequate pedestrian connections are provided for in all new development plans; the focus should be on connecting areas along stream corridors such as Chartiers and Ten Mile, as well as connecting residential neighborhoods to each other.

Land Use Needs

As reflected in the Vision Statement for the Project Area, residents cherish the rural nature and feel that the region offers an alternative to the busier suburbs of the north with its quiet and peaceful atmosphere and picturesque landscapes. While there is a need to accommodate moderate growth and development, there is concern that if left uncontrolled, will detract from the Project Area and the character that is treasured by residents. It is important to the Project Area that measures are taken to address the threatened loss of farmland and ensure that proper ordinances are in place to adequately control new development so that it enhances, rather than spoils, the very nature of the region.

Category	Identified Need or Issue
Agricultural Preservation	Need to preserve active agriculture areas & rural character.
Land Use Regulation	South Franklin Township Zoning Ordinance will need to be updated to reflect the community's vision for the future.
Land Use Regulation	Green Hills needs to adopt a Zoning Ordinance in order to address Airport Hazard Zoning.
Land Use Regulation	South Franklin Township should update its Subdivision & Land Development Ordinance (SALDO) in order to manage growth.

Agricultural Preservation

The Pennsylvania Municipalities Planning Code requires county governing bodies consider agricultural land in their comprehensive plans and must develop plans that preserve and enhance prime agricultural lands. Counties must also ensure that land use regulations be compatible with existing agricultural operations. The Washington County Comprehensive Plan, adopted in 2005, in particular notes the importance of agriculture to the County as a whole as well as the threat of loss of farmland as a serious issue. The plan includes the following County Development Objectives related to agricultural land preservation:

- ❖ Recognize the significance of the agricultural industry to Washington County's economy
- ❖ Celebrate the agricultural and rural character of the County's quality of life
- ❖ Provide the resources necessary to preserve and protect agricultural land

As development pressures increase in South Franklin Township and Green Hills Borough, farmers and large landowners alike will be approached to sell their land for development, most likely residential subdivisions. Land development patterns continue to see shifts from development in cities and boroughs to the rural landscape. These pressures combined with the growing hardship to maintain a primary income as a result of farming place agricultural lands under threat.

Currently there is only one known farm in the Project Area whose owners make their sole living off of farming activities. It is a 390-acre dairy farm located on Folly Hollow and edging on Vista Valley Road in South Franklin Township. The remaining farms in the Project Area consist of property owners who depend on non-farming jobs as their primary source of income. In many cases, these are the properties most vulnerable to development since agricultural activities are not the sole source of income for the owners. Because of this, South Franklin Township and Green Hills Borough should ensure that adequate means for preserving farmland are available to all who are interested and willing. There are many programs and organizations in Washington County that provide support and assistance to farmers, as shown in Appendix 6.



Active Farm (Mackin 2008)

Discussions with agricultural stakeholders, including active farmers in the Township, Lee Young of the Washington County Agricultural Cooperative Extension, and Caroline Sinchar, the Agricultural Services Planner at the Washington County Planning Commission, revealed that the primary concern among those who own and cultivate agricultural lands is simply being able to maintain their way of life. The recent oil and gas well "boom" has served to supplement farm incomes in an important manner, as many landowners are benefiting from the additional revenue streams that come with oil and gas well drilling. Another important concern among farmers is ensuring that there are adequate provisions in the zoning regulations to allow them to continue farming activities and uses; additionally, if dense residential or commercial development is permitted too close to active farms, this can cause neighbors to

complain. Stormwater is also a primary issue, with many farms struggling to handle it properly, and farmers would like to see assistance and education regarding sustainable practices. There is also a keen interest among landowners in pursuing conservation programs such as Agricultural Security Areas, but there is a need for Township assistance and guidance. Preservation is a particularly key issue if public sewage is brought throughout the Project Area, bringing with it the threat of development encroachment.

As development encroaches upon agricultural areas land use conflicts may arise. One way to minimize these conflicts is to notify residents moving into agricultural areas of the conditions associated with agricultural activities (noise, odor, working hours, etc.). One way to achieve this is working with the municipalities to include an agricultural deed attachment to the new residents' deeds notifying them of these possible conditions.

As mentioned in Section 1: Area Profile under Agricultural Profile, numerous laws exist to protect agricultural operations. The Agricultural Area Security Law and Right to Farm Law are just two existing laws that achieve this objective. As noted, neither the Township nor the Borough have established Agricultural Security Areas. Without any ASA, no landowner in the Project Area is eligible to participate in the Pennsylvania Agricultural Conservation Easement Purchase Program (PACEPP), which would perpetually protect prime agricultural land.

The Pennsylvania Municipalities Planning Code requires that municipal zoning ordinances must "...encourage the development and continuing viability of agricultural operations." The legislation forbids municipalities from discouraging the expansion of agricultural operations in areas where agriculture has tradition ally been present, unless the health or welfare of the public is endangered. While South Franklin Township has a zoning ordinance, it has very low minimum lot requirements in the agricultural district. The Township should look at establishing larger minimum lot sizes for structures or through the application of area-based allocation. Lot size requirements dictate how large a land parcel must be before a structure can be built upon the parcel. Area-based allocations use the original parcel size to determine the total number of parcels that can be sub-divided.

The presence of agriculture is also important to the ongoing efforts to protect the environment. The application of best management practices as stream bank fencing and protection of riparian buffers serves to improve the soil, air and water quality. The availability of agricultural, forest, and open space lands are crucial to protect the environment and provide habitat for wildlife.

In addition to approaching agricultural preservation from strictly a land use capacity, there is much the Project Area can do to promote their local farmers to take part in statewide programs aimed at promoting local produce as well as assisting farmers with grant and loan applications for farm equipment and other needs. These programs are addressed in Section 4: Implementation Plan.

Land Use Regulations

Without proper land use regulations in place, both residential and commercial development can be hampered. As stated in Section 1: Area Profile, South Franklin Township does have a Zoning Ordinance as well as a Subdivision and Land Development Ordinance (SALDO) in place. However, both are in need of updates. Again, as stated previously, Green Hills Borough does not currently have any land use regulations. Land use regulation is vital as it is the law of the land, and is the chief tool through which municipalities may control what is built where and how. Furthermore, it is equally important that these regulations are clearly stated, as confusing language or overly complicated standards can result in confusion among residents and potential developers. Good land use regulations can result in attractive, well-thought communities that please residents and attract new investment.

Zoning

Assessing the zoning ordinance is an important part of determining the future needs for a community. While the Comprehensive Plan and Future Land Use Map are advisory only, zoning is legally binding. Revising South Franklin Township's existing Zoning Ordinance to reflect accurately the community's wants and needs is a key step in ensuring that this Plan is an active, usable document. As briefly outlined in Part 1, Green Hills Borough does not currently have a Zoning Ordinance, while South Franklin Township enacted zoning in 1988 and last updated their ordinance in 2001.

Definitions

The following terms within the Ordinance are outdated, unnecessary, or inaccurate:

- ❖ Coal mine, coal mining activity, etc. - This definition is outdated, as the MPC states that zoning ordinances should refer to coal mining and coal-mining activities as part of the broader general term "extractive industries."
- ❖ Completely dry space; essentially dry space – Language for these terms is vague, and it is unclear to what these terms refer; the ordinance should clarify the language or remove it altogether.
- ❖ Daycare – Update the definition to reflect recent changes in the use of this term, as defined in the MPC.
- ❖ Development - Update the definition to reflect recent changes in the use of this term, as defined in the MPC.
- ❖ Dwelling – Currently defines duplex separately from multi-family and definitions for townhouse/row house, garden apartment, and multiple dwelling are located elsewhere; all dwelling unit definitions should be located under one heading and streamlined so that there is minimal confusion.
- ❖ Farm – Extremely similar to definition for agriculture; if the ordinance wishes to draw a difference between an agricultural use and a farm use, the ordinance should explain this more clearly.
- ❖ Home occupation – The MPC has made several changes to the way it defines home occupation and no-impact home-based business, and the ordinance should reflect that.
- ❖ Land development - Update the definition to reflect recent changes in the use of this term, as defined in the MPC.
- ❖ Neighborhood commercial – This definition is too vague and the ordinance language should clarify how this is different from other retail; in addition, the ordinance does not define retail or other more general forms of commercial.
- ❖ Subdivision - Update the definition to reflect recent changes in the use of this term, as defined in the MPC, and ensure that it reflects the existing definition in the SALDO.

Overview

In general, the existing Zoning Ordinance leaves South Franklin Township vulnerable for the future. Because there has been limited demand for new residential and commercial development, the ordinance has not harmed the community. However, this will not always be the case. Both the Zoning Ordinance and Subdivision and Land Development Ordinance should be updated in advance of any new development in order to prohibit future development from utilizing old land use patterns.

Although there are six districts, there are minimal differences between them. The residential districts (A-1, R-1, and R-2) in particular have only minor variations in dimensional standards. The primary permitted uses in all three are single-family residential and duplexes; multi-family is not permitted by right anywhere within the Township, though it is provided as a conditional use in the R-1 District. Overall, there are far too many conditional uses. Limiting many uses to conditional uses creates a great deal of unnecessary administrative work for the municipality, and it makes it difficult to achieve future land use goals, particularly in areas where new development is desired. It is important to have restrictions on land use in order to maintain the rural aesthetic, but it is equally important to build some degree of flexibility into zoning so that developers and residents alike can be satisfied.

In addition, the dimensional requirements within the Ordinance are very lax. Most yardage requirements are 50 feet from the street right-of-way, with minimum side yards of only 15 or 25 feet in most cases. No general vegetative buffers are required, though some conditional uses include buffer requirements. This may be adequate for the Township's situation in the present, but if the future vision encompasses residential or commercial growth, it is imperative that adequate dimensional standards are set forth. Without the proper provisions, undesirable styles of development may occur, and the overall character of the community can be degraded.

District Analysis

The purpose of the Agriculture A-1 District is to "maintain agricultural activities in conjunction with limited residential development," yet the ordinance permits duplexes by right and the minimum lot size is one acre. A one-acre lot size does not prevent the encroachment of development upon agricultural land. Furthermore, in a district with limited public sewage, one acre does not meet the Department of Environmental Protection's (DEP) standard recommendation of 2 acres for on-lot sewage (septic systems). If the Township would like to see development occur in some of the areas designated as A-1, then those areas should be changed to a district that more accurately reflects that need, such as the R-1 or R-2 District. The Agricultural District should be reserved solely for agricultural uses and large-lot (5 acres or greater) residential.

The Agricultural Transition A-2 District seems inappropriate in its current location, and it is not clear why this district exists the way it does. It allows heavy industrial uses, yet the rural A-1 District surrounds it on all sides. It is a small district located in a very rural part of South Franklin Township. If the intent of the district is to allow for mining activities, then the purpose should clearly state this, and provisions for additional buffers should be added to ensure that the uses occurring within its bounds do not conflict with the surrounding rural landscape.

The General Residential R-1 District is nearly identical to the A-1 District. The greatest difference is that the R-1 District does not permit agricultural uses by right. In addition, the minimum lot size for the R-1 District is very small, only 20,000 square feet. That is slightly less than half an acre. The stated intent of this district is to "provide for moderate density residential land uses." Requiring a lot size of only 20,000 square feet will result in a much higher density than the intent of the district states; in particular, if the Township installs public sewerage lines, development could happen at high intensities and with such a small minimum lot size, the Township risks losing its rural charm and character. Furthermore, dimensional requirements set the maximum lot coverage at 35 percent. Considering that most of the parcels in this District are larger, it is not logical to set such a small minimum lot size and then to cap lot coverage at 35 percent. This makes it nearly impossible to build by following dimensional standards to the letter of the law.

The Rural Residential R-2 District faces similar constraints. Its intent is to "preserve the characteristics of existing neighborhood areas." Its lot size minimum is the same as the A-1 District: one acre. As with both the A-1 and R-1 Districts, it permits duplexes but not other types of multi-family uses. In order to differentiate it from the other

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districts, it should allow for a wider variety of residential uses, including multi-family. It should allow for higher densities and smaller lot sizes; otherwise the R-1 should be modified to permit higher intensity uses.

The Local Commerce C-1 District does not name specific types of retail permitted except to just say retail (and retail is not defined in the definitions section). In order to make sure there is a clear understanding as to what types of retail are desired, the ordinance language should be clarified to specify what types of retail are permitted, i.e. grocery stores, pharmacies, banks, antique stores, etc.

The Major Commerce C-2 District aims to provide opportunities that will increase development around the Airport. As such, some uses are lacking that would assist in achieving this goal, including industrial/business parks (currently a conditional use), research labs, flex space, retail uses, nurseries, garden centers, etc. in addition to the uses already permitted.

Airport Hazard Zoning

As stated in Section 1: Area Profile under Zoning, every municipality with an airport hazard area within its boundary is required by Act 164, Chapter 59, Airport Operation and Zoning (hereafter referred to as the "Airport Zoning Act") to administer and enforce airport zoning regulations. While South Franklin Township is in compliance with this regulation, Green Hills Borough is not. It is important to the safety of the County Airport as well as the continued expansion that the Borough comes into compliance.

The publication *Pennsylvania Airport Land Use Compatibility Guidelines* provides an excellent overview on what types of land uses are compatible within the airport zones and which are deemed incompatible. The PennDOT Bureau of Aviation highly recommends the adoption of the guidelines presented in this publication by all impacted municipalities. While recommendations contained in the Guidelines are often related to standards published by the Federal Aviation Administration (FAA), it should be noted that these Land Use Compatibility guidelines are not FAA mandated; they are specific to the Commonwealth of Pennsylvania. The publication can be found online at: <ftp://ftp.dot.state.pa.us/public/bureaus/aviation/palanduse.pdf>.

In instances where land use incompatibilities already exist, acquisition strategies can also be employed as "corrective" actions. Airport sponsors should consider acquisition strategies in this section as both preventative and corrective actions. The following acquisition options are available:

- ❖ **Land Purchase:** Land purchase in fee simple by an airport is the most positive of all forms of land use control, but is usually the most expensive. It is recommended by the FAA that airport proprietors own the property under the runway approach and departure areas, at least to the limits of their RPZs. Purchase of land within RPZs is eligible for funding through the FAA, if the airport is included in the National Plan of Integrated Airport Systems (NPIAS), or through the State matching grant option. It is preferable that local officials try to protect other land in the airport environs through comprehensive planning and zoning first, before outright purchasing, since the positive control method is less costly. On the other hand, variations of this method include land purchase with either resale for compatible use (land banking with restrictive covenants) or use for a compatible public purpose. Under this scenario, costs may be effectively reduced.
- ❖ **Easements:** An easement is a right of another to part of the total benefit of ownership of real property. Easements may be used as an effective and permanent form of land use control. Easements are permanent, with title held by the purchaser until sold or released, and work equally well in zoned municipalities or unzoned municipalities. Short of purchasing fee simple easements, property can be

acquired by negotiation or condemnation. Easements permit the purchaser the use of another's property and property rights for the special purposes stated in the easement agreement. One major advantage of easements is that they can be permanent, whereas zoning can be changed. Additionally, easements often may be acquired for a fraction of the total value associated with the simple purchase of the land and are, thus, less expensive. Easements can be an effective strategy for assuring compatible development around airports.

- ❖ **Transfer of Development Rights:** Transfer of Development Rights (TDR) involves separate ownerships and the use of various "rights" associated with a parcel of land. Under the TDR concept, some of the property's development rights are transferred to an alternate location where they may be used to intensify allowable development. For example, land identified within the critical corridor of an extended runway approach could be kept in open space or agricultural use and its development rights for residential use transferred to locations outside the corridor. Landowners could be compensated for the transferred rights by selling the development rights at the new location. In order to be a viable option, the TDR approach must be fully coordinated with an overall planning and zoning process; this is best achieved through the use of planned zoning.

Subdivision and Land Development Ordinance (SALDO)

Having an adequate Subdivision and Land Development Ordinance (SALDO) is also an important tool available to a municipality for managing possible future growth. While the zoning ordinance typically regulates use, the SALDO can assist a community in regulating specific structural and design elements of a use. In addition to regulating basic things like the location of future lot lines, streets, and utilities easements, a SALDO can also regulate many other aspects of development. This includes regulations regarding the impacts of activities on stormwater runoff, erosion, and sedimentation, as well as provisions for landscaping, such as types and varieties of plantings and trees and their placement, requirements for sidewalks, lighting, trails, or open space, and requiring the conservation of environmentally sensitive areas such as steep slopes and floodplains. A SALDO can also incorporate voluntary design regulations, such as suggestions for "model" subdivision developments, façade treatments, garage or front door orientation, lot arrangement, street layouts, and so on.

Green Hills Borough does not currently have a SALDO in place. South Franklin Township enacted their SALDO in 1988 and the Township most recently amended it in 1996. It includes provisions for preliminary plans, final plans, subdivisions of three lots or fewer, improvements, requirements for submittal, fees, street, and property identification requirements as well as Design Standards.

Some current weaknesses in the SALDO include:

- ❖ Weak requirements regarding information and data required on preliminary and final sketch plans
- ❖ No requirements regarding "landlocked" lots, interior lots, or "flag" lots
- ❖ Weak requirements regarding landscaping and vegetative buffers
- ❖ No requirements regarding lengths, placement, or grading of driveways or access points; no provision for shared driveways
- ❖ No lighting standards for commercial or industrial facilities
- ❖ Weak stormwater management standards and erosion and sedimentation control standards
- ❖ No protections for scenic views

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- ❖ Weak requirements regarding dedicated open space or recreation in new developments
- ❖ Lack of traffic impact fees
- ❖ Vague sidewalk requirements
- ❖ No design standards addressing principles of “smart” or managed growth, such as conservation subdivision standards, “clustering” techniques, or lot arrangement requirements

Residential Development Needs Summary

Residential Development Needs

The Project Area is an attractive bedroom community for the City of Washington and for the Pittsburgh metropolitan area in general; however it is important to preserve the community's rural character and charming scenery without becoming just another typical suburb. Most of the current housing stock is detached single-family residential characteristic of rural areas; there is a need for a variety of housing options, such as townhouses, patio homes, etc. if the Project Area is to accommodate an aging population and changing needs. Many older residents would like to live in a home where maintenance (snow removal, yard work, etc.) is taken care of for them. In addition, there are a number of planned residential developments that depend on basic services, such as public sewerage, in order to become a reality. Growth brings with it positive economic and social benefits, but it also presents important considerations for the municipalities. If residential growth happens in an uncontrolled manner, it can end up costing both South Franklin Township and Green Hills Borough a lot of money in providing necessary services and infrastructure. If, however, it is planned for adequately, the municipalities can enjoy the benefits of a growing community without the negative costs.

Category	Identified Need or Issue
Residential Development Needs	Need for a greater diversity of housing options.
Residential Development Needs	Need for increased community services for Lone Pine Estates & Franklin Lakeview Estates.

Diversity of Housing Options

Future housing needs will likely center on whether or not public sewerage is provided within the Project Area. If it is, development can and will follow, which is why it is essential to determine areas where development is desired and areas where it is not. The most likely place to develop first will be those areas of open land near the Washington County Airport, close to the border with North Franklin. Spillover effects from developments such as Lone Pine Estates and Franklin Lakeview Estates, as well as several recent developments in North Franklin Township and other adjacent communities, will more than likely occur, and will tend to follow the same type: a mix of single-family detached structures, townhomes, and patio homes. Much of this new housing will be built to meet the needs of the rapidly retiring Baby Boomer generation. As more members of this generation reach retirement age, the demand for downsized housing will grow. In addition, the Project Area will also need to diversify its housing stock in order to continue to appeal to younger families with small children. These families may not always want a larger home but may want to start in smaller single-family structure or possibly a townhome, patio home, or condominium. Having a larger mix of housing types will assist in the Project Area in attracting a broad range of the population and will ensure a stable and growing tax base.

Increased Community Services

Lone Pine Estates

As mentioned in Section 1: Area Profile, there are currently plans for a phased residential development project in Green Hills Borough. The proposed Lone Pine Estates will ultimately consist of 458 units, but Phase I is expected to contain 76 units that will consist of a combination of townhomes and detached single-family homes. Phase II calls for road improvements, including the addition of two exits / entrances, including access to Van Neal Road, for which PennDOT and the Department of Environmental Protection (DEP) have already granted preliminary approval. The development is expected to have a significant impact on the Borough, as it will mark the first major residential development to happen there since its secession from South Franklin Township in the late 1970s. It is also expected to have an impact because up to this point the small enclave of Green Hills has not had to provide services to its residents. Currently, residents do pay a wage tax, and a small Borough tax, both of which are handled by South Franklin Township's accountant. However, there are no municipal services provided. Currently, issues such as the management of open space and landscaped areas and road maintenance will be handled through the developer, and will likely be managed through a homeowners' association, with a fee administered to residents to assist with the cost.

Franklin Lakeview Estates

Franklin Lakeview Estates is the proposed 960-acre development that will span both North and South Franklin Townships. The development will wrap around Reservoirs 3 and 4 and consist of approximately 900 units. The development is proposed to be located along Scenic Drive, in close proximity to SR 18. The North Franklin portion of the site comprises 609 acres, while 315 acres sit in South Franklin Township. The development is to be similar to Lone Pine Estates, in that it will involve a mix of single-family, townhouse, and condominium units. Currently, it is anticipated that the development will occur in seven to nine phases, and could take as long as ten years to complete. In addition to the traffic concerns discussed and analyzed in the Transportation section of this Chapter, the development will also encompass two differing school districts, both Trinity and McGuffey, and could threaten to swell enrollment at local elementary schools in both districts, including Joe Walker Elementary. Sewerage infrastructure also poses a potential issue as there is not an adequate number of tap-ins for such a large number of units.

Economic Development Needs Summary

Economic Development Needs

Because of its strategic location in close proximity to major interstates and the City of Washington, as well as the asset of having the County's only airport within its bounds, the Project Area is poised to see future growth in nonresidential development. Nonresidential development is an important part of any community; however it is important that such development take care not to detract from the rural character found in the Project Area. Having access to retail, local business, institutional, recreational, and employment amenities enhances the quality of life of residents and makes a community an attractive place to live. Economic development in the form of office and industrial space creates a sustainable local economy and provides employment for local residents.

TABLE 3.9: ECONOMIC DEVELOPMENT NEEDS

Category	Identified Need or Issue
Economic Development Needs	The County Airport is in need of substantial improvements in order to better serve the business community.
Economic Development Needs	There is a need for adequate infrastructure and space to support local employment opportunities such as aviation-related businesses.
Economic Development Needs	The community lacks basic convenience commercial assets such as a gas station, grocery store, bank, or pharmacy.

Washington County Airport

The Airport has had substantial technological and facility upgrades over the last ten years and serves the existing customer base adequately. Past improvements have included widening the runway to 100 feet, a first even precision navigation approach to Runway 27 and upgrades to the runway, taxiway, and approach lighting systems. During the past ten years, over six million dollars in investment and improvement has occurred.

In 2007, the Washington County Planning Commission undertook the task of completing a Master Plan for the Airport, and finished the plan in 2008. The Master Plan outlines a series of improvements, both significant and smaller in scale, which will remedy some of the Airport's current issues and a timeline and funding strategy for completion. The majority of these issues and improvements, it should be noted, are based upon expected future growth in the area and are not necessary unless such growth occurs. The primary short-term emphasis for the Airport will be placed on maintaining existing facilities and meeting Federal Aviation Administration (FAA) guidelines.

The most significant issues identified in the Master Plan is that of the two runway-related issues regarding Runway Safety Area (RSA) and runway length. The RSA is currently substandard in width and significantly substandard in length. In addition, the current runway length is insufficient to allow larger existing and forecasted aircraft that regularly use the airport to takeoff at their maximum allowable takeoff weight.

As such, in terms of airside improvements, the Master Plan concluded that there is sufficient justification for extension of the runway. However, the Master Plan notes that there are considerable issues to overcome in order for the extension to happen; these include terrain issues, obstructions, environmental concerns, and the acquisition of property and easements. All of these issues come with costs that could make accomplishing the project difficult. In order to assist with mitigating the estimated \$30 million cost associated with extending the runway, the Master Plan recommends that Washington County defer the actual construction of a runway extension and accomplish it as a longer-term project instead. By doing it this way, land acquisition and obstruction removal can be accomplished in a gradual and systematic process. In particular, the Master Plan recommends focusing attention on obstruction removal, particularly for existing approaches. Therefore, the County's immediate goal is to acquire land and structures within the safety zone, particularly those on Moore Road, as well as some properties on SR 18.

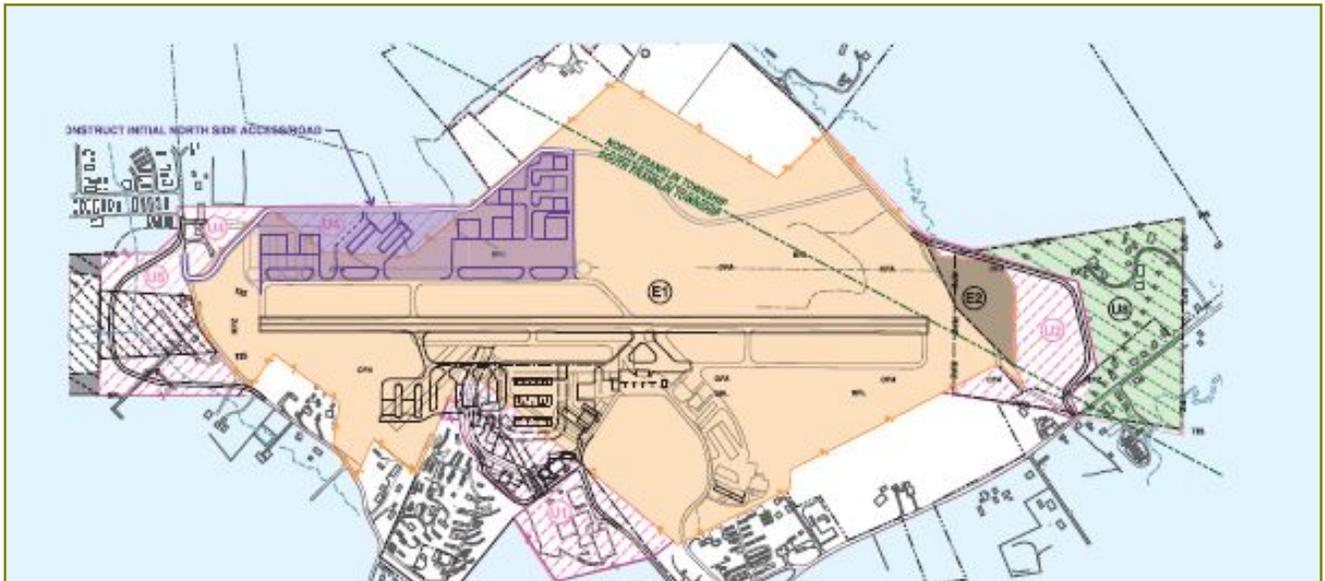
The Master Plan also addressed several landside issues and conditions. The Plan identified a need for the construction of additional hangars to accommodate a waiting list. Three tenants are waiting to build on the proposed 50-acre north side expansion site immediately. There is also a need to relocate and remove the existing terminal building and several other associated facilities that are currently in the safety zone. Washington County projects that with these improvements, over 120 new jobs will be created in addition to the approximately 300 that already exist; 50 new construction and 15 new service jobs will also be added.

Economic Opportunities

The 50-acre Northside development is an important short-term economic opportunity for the Project Area. The County and local officials have identified an immediate need for buildable space to accommodate corporate hangars for aviation businesses. The primary goal of the 50 acre Northside Development will be for aviation business and corporate support service for area business travelers. The development of this site will retain and expand two (2) aviation businesses while concurrently providing space for other aviation businesses to locate in Washington County. Phase I of this project was completed in summer of 2008 and included the construction of the

Economic Development Needs

first half of the access road. Phase II will extend the access road and Phase III will construct the north ramp and rough grading for pads for the two companies immediately able to expand (Washington County Planning Commission, 2009). The project has been identified by the County as a target area for development due to its relatively low cost associated with preparing the land for development and the fact that much of the land is currently owned by Washington County. In addition, based on an economic impact study of airports as conducted by the Commonwealth of Pennsylvania, the Washington County airport presently enjoys a direct output in excess of \$9 million by on-airport tenants (Washington County Planning Commission, 2009). Increasing this activity will increase this direct impact as well as the secondary impacts from these businesses. The total capital improvement upon completion is estimated at \$6,800,000 and an additional 60 jobs.



The proposed Northside Development (Washington County Planning Commission, 2009).

Future Improvements

One of the most beneficial aspects of improving the Airport is that the enhancements will better serve the business community, and it will open the door to opportunities for new growth. The better the Airport can serve the business community, the more likely it is to attract businesses to the area, as well as increase the profits of existing ones. As such, the Redevelopment Authority of the County of Washington (RACW) is in the process of planning a major industrial park, tentatively called Skypointe, to complement the enhancements at the Airport and take advantage of the new business opportunities that the expansion presents. RACW has committed approximately \$1.5 million toward funding necessary infrastructure improvements in the area in order to make Skypointe a reality. RACW plans to acquire 145 acres north of the airport to develop the commercial industrial park. Skypointe would aim to provide space for aviation-related businesses, though it would not be limited solely to that purpose. Currently, RACW is working with private property owners in North Franklin Township to acquire 102 acres of land, with an additional 35 acres in South Franklin Township. Improvements will eventually be made to Moore Road and Vankirk Road, with a road connecting the two and running through the park. The potential economic benefit to the Project Area includes the creation of nearly 1,000 jobs. However, it should be noted that development could not happen without improvements to the sewage system. In addition, some plans for Skypointe have included the suggestion of a new interchange on I-70 at Mounts Road to provide better access to the Airport and surrounding area; however, the development of Skypointe is not contingent upon a new interchange at Mounts Road.

Local Commercial Needs

Project Area residents have expressed interest in a limited small-scale retail commercial development along SR 18. There is a need for basic community retail amenities such as a grocery store, bank, convenience store, gas station, or similar uses in the Project Area. Currently the closest grocery is in the City of Washington, and the closest gas station is several miles north on SR 18 in North Franklin Township.

Community Amenities Needs

There is a high level of satisfaction among most community residents with the level of municipal services within the Project Area. The Project Area enjoys convenient access to one of McGuffey School District's two elementary schools. Children and adults alike also benefit from the proximity of the Citizens' Library system in Washington, which provides summer Bookmobile programs in South Franklin and Green Hills. There is a low crime rate, and residents generally perceive state police protection as sufficient. Residents also praise fire and emergency services for providing excellent service to those within the Project Area. All of these strengths are part of what makes the Project Area such a desirable place to locate, and why it is attractive to potential future residents.

However, there are some needs identified by residents and elected officials as important in assisting the Project Area reach its vision for the future.

TABLE 3.10 COMMUNITY FACILITIES & AMENITIES NEEDS	
Category	Identified Need or Issue
Municipal Government	Look for other ways to partner with neighbor municipalities.
Municipal Government	The Township is need of updated public works equipment.
Public Safety	There is vandalism at the Township Park.
Fire & EMS	SFVFD suffers from a lack of funding and a declining membership.
Waste Management Services & Recycling	There is a desire for the Township to put a process into place to control burning.
Waste Management Services & Recycling	Illegal dumping, littering, and unsightly junk are prevalent in many portions of the Project Area.
Waste Management Services & Recycling	Residents lack adequate options for recycling.
Public Schools	McGuffey School District is seeing a continuing decrease in enrollment.
Public Infrastructure (Water)	There are areas of South Franklin Township in need of public water.
Public Infrastructure (Sewage)	The physical plant facilities at Franklin Manor are inadequate and not functioning properly.
Public Infrastructure (Sewage)	Many on-lot systems are failing.
Public Infrastructure (Sewage)	The Project Area has no public sewerage.
Telecommunications	Cell phone service is inadequate.
Telecommunications	High-speed Internet services are not available to residents.
Parks & Recreation	More recreational options are needed, especially for school-aged children.
Parks & Recreation	Park facilities need improvements to handle flooding issues and the desire for new equipment.

Municipal Government

Elected officials and municipal staff have identified several issues concerning municipal government needs. Perhaps the first and most important is that the Township would like to build upon its existing ABDS Cooperative Agreement. The other participating municipalities in the agreement are Amwell Township, Buffalo Township, and Donegal Township. Although the only current collaborations between the communities have been on road work and road maintenance projects, all of the communities have agreed that they would like to work together in other areas of municipal governance as well in order to maximize cost-savings.

Elected officials and municipal staff have also identified the need for new public works equipment. While the majority of public works and road equipment is in good to fair condition, the Township's street sweeper is in poor condition. It is from 1977 and is in need of replacement. In addition, the Township is also in need of a new grader / paver. The current grader, which is from 1973, is in fair condition but often has mechanical problems, which make utilizing it efficiently an issue.

Public Safety

Residents and elected officials identified the need for increased security in South Franklin Township's public park. Issues at the park include vandalism and loitering. In particular, there are security concerns at night. Because South Franklin does not currently have its own police department, and because the response time for state police can be lengthy for "nuisance" calls, South Franklin Township needs to devise alternative ways to address public safety concerns at the park and municipal building. Discussions with the Township Parks and Recreation Board reveal that the community is taking active steps to alleviate this issue, including the installation of security gates along the access road to the upper area of the park. These security gates can be locked during the winter and after dark during the summer. In addition, the Parks Board is currently investigating the financial feasibility of installing security cameras.

Fire & EMS

Although fire and emergency services are considered excellent and are valued by community residents as an important asset, there is a growing concern among the VFD about the lack of volunteers. The South Franklin Volunteer Fire Department currently has a roster of 35 volunteers, of which 23 are active; the Department responded to 240 calls in 2007. It can be difficult for rural and even semi-rural communities to attract and retain volunteers for their fire departments. This is due in part to a lack of younger people in these communities, but is also contributable in large part to the extensive time commitment and training necessary to become a volunteer firefighter as well as changes in culture and the workplace. ("The Empty Firetruck," NYT, 10/13/96).

It is important that the South Franklin Volunteer Fire Department seek new ways to remain vital and to strengthen its membership numbers. There are developments proposed in Green Hills and South Franklin, meaning that the future demand for fire and emergency services is only going to increase. This is even more important if commercial or business development occurs along SR 18 as envisioned by the community.

Waste Management Services & Recycling

Both elected officials and residents have also expressed great concern over the amount of illegal dumping and littering through the Project Area. Currently South Franklin Township has an ordinance in place to control the amount of illegal dumping and littering; however, the problem persists. It can create a negative image of the community, particularly to visitors and potential new residents, and detracts from the pastoral qualities of the Project Area. It also poses significant health, safety, and environmental risks.

South Franklin Township elected officials also expressed concern over unregulated burning. In dry conditions, one spark can easily ignite several acres of brush; it can also pose environmental threats and harm natural resources. As such, there is a need for a burning ordinance within the Township. A burning ordinance can regulate where, when, and how residents can burn.

In addition, residents have identified the need for recycling services within South Franklin Township. This raises an important issue, as currently residents within the Project Area contract individually with a list of approved waste management providers and hence do not receive curbside recycling services. In order to offer curbside recycling services to residents, the Township may want to consider contracting such services with a waste hauler.

Public Schools

Planning for future land use directly affects school districts, particularly if the community is experiencing growth and development. Analyzing current needs within the school district then becomes vital because it is important that the district have the capacity to accommodate that growth. Additionally, in communities where a declining tax base is an issue, the comprehensive plan can examine ways to increase tax revenue streams and bring in new residents and students.

The main issues for McGuffey School District are the lack of infrastructure, particularly sewer and water, which prevents new development from occurring and thus resulting in a stagnant and/or declining tax base. In addition, there are large amounts of land throughout the Project Area as well as the School District in general, that is being utilized for natural resources or is non-taxable, exacerbating the issue. There is little that can be done to reverse this trend until adequate infrastructure is in place to allow for development and lead to an increase in tax base and the number of school-aged children.

Public Infrastructure

Public infrastructure, particularly sewer, is perhaps the greatest issue facing the Project Area today. Without both water and sewer, future residential development is severely limited and commercial development is virtually impossible. In order to achieve their vision for the community, both municipalities will need to develop a detailed strategy for maintaining and expanding their water and sewer infrastructure.

Water

Green Hills Borough and the majority of South Franklin Township are fortunate to be served by public water. Currently, public water lines extend along SR 18 to its intersection with Deerfield Road, and the length of SR 221. Public water is available along the entire length of Deerfield, as well as Vista Valley Road, Alamae Lakes Road, Vaneal Road, Moore Road, Lagonda Road, and most of Bedillion. Public water also serves the majority of the Franklin Manor development, and several trunk lines branch out along some of the Township's smaller roadways.

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However, there are still portions of the Project Area that do not have access to public water. In order to better serve current residents, and particularly to facilitate development in the desired areas (e.g. the northern portion of the Project Area), public water service will need to be extended. Extending service along Jolly School Road, Mounts Road, Lower Cove Road, and the remainder of Lagonda Road are all priorities.

Sewage

As stated in Section 1: Area Profile, public sewage is currently not available in the Project Area, although the mobile home parks and Franklin Manor (currently managed by the Township) each maintain their own package plants. The lack of public sewerage in the Project Area presents a multi-faceted problem. The first, and most pressing issue, is that public sewerage is currently needed in order to alleviate the major failures occurring at Franklin Manor, as discussed in Section 1. The second issue is that future growth will not happen without the infrastructure necessary. Trying to address needs for housing, commercial development, or industrial development is useless without first rectifying the lack of public sewage. Residents and elected officials alike consistently rank sewage as the most important issue facing the Project Area in the next ten years.

In order to address some of these problems, South Franklin Township recently began the process of adopting an Act 537 Plan, which the Township submitted to the Department of Environmental Protection (DEP) in February 2009 for review and comment. The Act 537 Plan assessed existing sewerage and wastewater conditions within the Township. The main concern of the DEP regarding the draft plan is that it only addresses sewage issues and infrastructure in a small portion of the Township. The current study area of the plan focuses on the SR 18 portion of the Chartiers Creek watershed, and extends from the northern boundary of South Franklin Township to the area just south of the Lone Pine Golf Club. It does not assess sewage conditions and infrastructure for the entirety of South Franklin Township, or even the entire Chartiers Creek watershed. DEP suggests, in its comment letter to the Township, that the study area be expanded to include the entire municipality and that a comprehensive on-lot management system be developed.

The Act 537 Plan explores several alternatives. All of the proposed alternatives, as of July 2009, are summarized briefly below. In light of the fact that the Township has not yet adopted the Plan, it must be kept in mind that these alternatives are subject to revision and change as the Act 537 Plan process continues. Anyone seeking more information should contact the Township regarding its status.

Alternative 1 is the original conveyance plan that was proposed in the previous un-adopted Act 537 Plan. The total proposed number of customers for this alternative would be 745, with 183 located in 5 different mobile home parks and 190 customers in Franklin Manor. In addition to de-commissioning the Franklin Manor facilities, this alternative would incorporate the mobile home parks north of Franklin Manor and de-commission those facilities, as well. As with Alternative 2 below, this option relies on the conveyance of flows via WEWJA. It would also involve the construction of at least one, possibly two, major pumping stations.

Alternative 2 is almost identical to Alternative 1; however, it does not include the mobile home parks, thus reducing the estimated number of customers to 562. As with Alternative 1, it involves the construction of a new gravity sewage collection and interceptor system that would serve existing residences in Lagonda, the existing Franklin Manor development, and the proposed Lone Pine Estates in Green Hills Borough. Sewage would be conveyed to WEWJA via a pump station/forced main system to facilities to be constructed by the developer that would serve his proposed Franklin Lakeview Estates development. As with Alternative 1, this recommendation is contingent on the

construction of a pump station and associated force main by the developer to be able to convey sewage generated in the SR 18 corridor watershed to the WEWJA facilities.

Alternative 3 is a scaled back design of the Alternative 2 sewage collection system with construction of wastewater treatment plant within South Franklin Township, to be managed and run by South Franklin Township. The proposed new plant would initially serve a limited portion of approximately 170 homes in the Lagonda village area, approximately 190 homes in Franklin Manor plan, and 434 units in the proposed Lone Pine Estates. It would also include capacity to handle flows from the proposed Franklin Lakeview Estates. This alternative would reduce the size of the collection system indicated in Alternative 2 and would also mean that the Township would construct a new wastewater treatment plant in lieu of pumping sewage flows to the WEWJA facilities. The most probable location for the new plant would be along SR 18 near the Tree Haven Mobile Home Park.

Alternative 4 is very similar to Alternative 3. It would involve the construction of a new wastewater treatment plant in the proposed location. This option, however, would serve 190 existing customers in Franklin Manor, 434 new customers in the Lone Pine Development and approximately 170 new customers in Lagonda. It would eliminate Franklin Lakeview Estates from the proposed system.

Alternative 5 would also involve the construction of a new wastewater treatment plant, but would further reduce the number of residents served. This option would include only 186 residences in Franklin Manor in addition to the Lone Pine development of 434 proposed residences. It would include only 30 future residential units in Franklin Manor as part of future build-out. In this alternative, it is likely that the proposed Lone Pine Estates package treatment plant would be expanded instead of completely decommissioned in order to accommodate the additional flows from Franklin Manor.

Alternative 6 offers a combination of alternative sewerage options, including pressure sewer systems with grinder pumps, septic tank effluent pumping systems (STEP), vacuum sewer systems and other non-conventional collection and treatment systems. Construction costs for these types of systems are typically much lower as the pipe size is smaller and at a shallower depth with only a minimum number of access points. The major disadvantages of these types of systems are the limited ability to handle future capacity, thus limiting residential development potential, as well as the increased responsibility upon the residential customer to operate and maintain the grinder pumps or vacuum tanks properly. In addition, this alternative is not recommended because unconventional methods of sewerage conveyance are not likely to receive significant grant funding. This alternative is viewed primarily as a short-term fix and will not solve the longer-term issue of how to handle wastewater within the Project Area.

Alternative 7 suggests that a thorough review of the Township's method for handling the proper installation, operation, and maintenance of on-lot sewage disposal system is needed. Failing systems due to faulty design, inadequate installation, improper maintenance, or poor site conditions threatens the health, safety, and welfare of all residents. It can lead to pollution, ground contamination, and can pose unnecessary financial burdens upon residential households. The Township must emphasize through education and enforcement that on-lot sewage system owners should have a personal economic interest and sense of public responsibility in maintaining their systems and ensuring their effective operation and management. If no other options are feasible, handling on-lot systems effectively becomes even more vital.

The Plan proposes funding the project through a combination of tap-in fees from system users, equity payment from the developer of the proposed Franklin Lakeview Estates, a low-interest PENNVEST loan, and a grant from the

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Local Share Account of gaming monies. The Plan also proposes that the Township apply for a grant from the Commonwealth Financing Committee. The Township has already secured approximately \$480,000 as part of a Commonwealth H2O Grant.

On-Lot Systems

As enumerated in the Act 537 Plan, common problems in South Franklin Township consist of green lush grass, wet or spongy areas, odors, water ponding or surfacing, system overflow, sluggish drains, and wastewater backing into the home. There have been limited reports of black sludge on the surface of yards, and many residents have reported that sewage can be seen draining along the side of the roadway. However, the Plan does not specifically address on-lot sewage system management except as a possible alternative. On-lot sewage disposal systems are how the majority of Project Area residents handle their waste, and so it is imperative that any sewerage management planning undertaken by the Township and Borough address this issue.

Telecommunications

Currently, the Project Area accesses Internet through dial-up connection only, which is a slow and tedious process and can make Internet use a hassle. Having an adequate Internet connection may seem like a luxury, but it is actually an important necessity, particularly for businesses and public institutions. A grocery chain or similar retailer cannot locate in a community without broadband or DSL because of their reliance on high-speed Internet and phone lines. A church may wish to post events and news online but could find it difficult without the appropriate bandwidth. It is also an important tool for families with school-aged children. Many school districts are moving important educational content to the Internet, and are encouraging children to use the Internet as a tool for research. Although recently Comcast expanded high-speed Internet services to include portions of Vista Valley Road, Alamae Lakes Road, Deerfield Road, and Jolly School Road to Graham Avenue, South Franklin and Green Hills will need to take the steps necessary to procure DSL or cable modem connections in order to remain an attractive community for families as well as businesses. Acquiring high-speed Internet can be difficult, particularly in areas with sparse population, but often all it takes is a large enough demand to motivate private service providers such as Verizon or Comcast.

Cellular phone services are also important. Increasingly, Americans are electing not to subscribe to local landline phone services at all and are instead relying solely on cell phones as their primary means for service. Currently cell phone reception is extremely limited in the Project Area. Much of this is due to sparse population, though the height restrictions imposed by the Airport can make it difficult to construct adequate communications or cell towers. However, the Federal Communications Commission (FCC) recently granted a permit for a new cellular tower just to the north and west of the Airport; the tower is currently finished and active, though no providers have currently rented "air space."

Parks & Recreation

While residents enjoy the amenities offered by the South Franklin Township Park, including the baseball fields, gazebo, walking trail, playground equipment, and picnic tables, a wider variety of recreational activities and options are necessary to make the Project Area more attractive for a range of potential new residents.

As the Project Area continues to see increased development pressure, it will be important to have multiple types of activities and facilities that appeal to numerous age groups. The Parks and Recreation Board is working to offer a wider variety of activities for residents and to improve the quality of activities already offered. Recent efforts include concerts in the park, intramural volleyball tournaments, and community movie nights. Many residents would like to see more recreational options for school-aged children, such as rollerblading or skateboarding areas.

The Parks and Recreation Board have also worked to identify specific improvements needed within the park. These improvements include new fencing for the baseball fields, so that McGuffey School District and other interested groups may utilize them more effectively; updated playground equipment; improved restroom facilities; electrical service in the upper area concession stand; the addition of a second pavilion; and the creation of an amphitheater to accommodate concerts and other community events. The Board has also indicated that some residents are concerned with the current location of the basketball courts, which are near the playground, and would like to see the two uses separated.

Stormwater and flooding issues currently hamper improvements to the ball fields, as the fields regularly take on water during periods of heavy rain, and improvements would risk damage. Additionally, as more residents and groups utilize the park, parking may become an issue, particularly since it is shared with the municipal building.

Energy Conservation Needs

Ensuring a sustainable supply of energy resources is vital to residents, businesses, developers, institutions, and all levels of local, county, and state government. Communities and individuals use energy every day, from controlling indoor environments to fueling vehicles to powering electronic devices and equipment. Energy is critical to the modern way of life, both personal and professional. As the reliance upon energy resources grows, it becomes increasingly important to address the sustainability of energy practices in order to ensure the provision of a steady, long-term source of energy.

The Pennsylvania Municipalities Planning Code (MPC) encourages the incorporation of an energy conservation component in comprehensive plans. Due to the increasing concern for the limits and environmental impacts of non-renewable resources, as well as interest in energy alternatives, it is important to address energy conservation needs in the context of the South Franklin Township and Green Hills Borough Multi-Municipal Comprehensive Plan.

Category	Identified Need or Issue
Municipal Government	The Township building and maintenance facility are in need of updates and improvements.
Municipal Government	Codes & ordinances present an opportunity to encourage energy conservation and environmental stewardship.
Residential Sustainability	Project Area residents are not fully aware of conservation techniques and tools available to them.

Municipal Government

Facilities

The South Franklin Township building is in need of improvement. Currently, the HVAC and electrical systems are out of date and inefficient, resulting in high utility bills and wasted energy. These systems should be updated in order to maximize efficiency and reap potential savings. Many studies have illustrated that simple changes can result in thousands of dollars of savings for municipalities. The Township municipal complex is also in need of more space, and would like to expand by about 800 square feet in order to better accommodate staff, storage, insulation, and meeting room needs. In addition, the Township maintenance facility, located on Old Scales Road, is in need of weatherization and insulation.

Codes and Ordinances

Codes and ordinances present an important opportunity to encourage the conservation of resources and energy in a community. Throughout the Commonwealth, many municipalities have incorporated provisions for energy conservation into their policies and regulations. The most common provisions are those that permit the installation and use of energy devices that will allow property owners to reduce their energy dependence, such as solar or wind energy components.

However, many other aspects of ordinances are pertinent, as well. Standard zoning practices in the past usually separated residential neighborhoods from other destinations, resulting in increased vehicular travel and more expansive public infrastructure. Land use policies that promote a mix of compatible uses and transportation policies that promote multi-modal travel options can reduce the energy demands of residents, businesses and community facilities and services. In addition, the location and design of various community amenities, facilities, and services has a definite impact on energy use. Encouraging employment centers, schools and recreational facilities, religious centers, and other services to locate near medium-density residential neighborhoods allows people to walk or bike to these destinations. Moreover, compact forms of development also limit the distance that public safety and emergency personnel have to travel to reach someone in need. The condition and location of water and sewer infrastructure also influences energy demand for these utilities. Inefficiencies in treatment equipment and transmission lines can lead to higher operational costs for authorities, companies, and ultimately consumers.

New or revised building codes can encourage new techniques in construction that can encourage more sustainable practices. Homes sited or screened from winter winds and shaded from summer sun tend to reduce energy costs for seasonal heating and cooling. Detached and single story homes tend to use more energy than attached or multi-story homes. Building design and construction materials also contribute to energy efficiency. Buildings that are oriented to the south will absorb more thermal energy and be warmer in the winter because of the angle of the sun.

Residential Sustainability

Costs for electricity, natural gas, oil, and gasoline continue to rise steadily. The cost of energy impacts both public and private sectors. Residents pay to provide heat and electricity to their homes, and pay for fuel for their cars. Business and industry, including the farming community, pay equipment costs, processing costs, production costs, and transportation costs in order to produce or provide their products and services. Important community institutions pay to heat and run their facilities. Reducing dependence on non-renewable sources of energy not only will assist the Township and Borough in reducing operating costs but also will improve the quality of life for all residents of the Project Area. However, many residents and business owners are unaware of what they can do to help decrease their dependence on non-renewable sources of energy. It is vital that the Township and Borough not only adopt new ordinances and codes that will permit residents to adopt sustainable energy-saving practices, but that they also engage in increased outreach and educational efforts that will help residents and business owners achieve greater environmental sustainability.