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Chapter 6 – Recommended Development and Implementation

This chapter describes the Recommended Development Plan for the Airport and the proposed implementation of that plan. Future land use is described. The refinements made to the selected terminal alterative are discussed, the projects that comprise the implementation plan and implementation schedule are presented, and finally, the financial plan for implementation is summarized. The implementation plan begins in 2016, with near-term projects identified for the period from 2016 through 2025 and Long-Term projects in the period from 2026 through 2035.

The timing of project implementation in this Plan is based on the demand projected under the Multi-Carrier scenario. If demand does not materialize as forecasted, then the timing of projects can be adjusted to correlate with actual demand. Those projects that are not demand-driven, specifically airside improvements, are contemplated based on the life cycle costs of those facilities. CVG has the flexibility to adjust the timing of projects to respond to both market and financial changes, and to develop alternative financial plans based on specific circumstances at the time. A financial analysis of the proposed near-term development plan considered the financial feasibility of implementing the capital projects and renovation and renewal projects within the framework of ongoing business operations. The financial analysis lays out a feasible plan to move forward in the near term, citing factors which may influence funding mechanisms or implementation timing.

6.1. FUTURE LAND USE

On-airport future land use planning is a key element of the Master Plan Update and overall development plan. It integrates the preferred development alternative, potential development beyond 2035 and surrounding future land uses in order to achieve long-term compatibility between all three. The land use plan guides siting for development to maintain compatible operations.

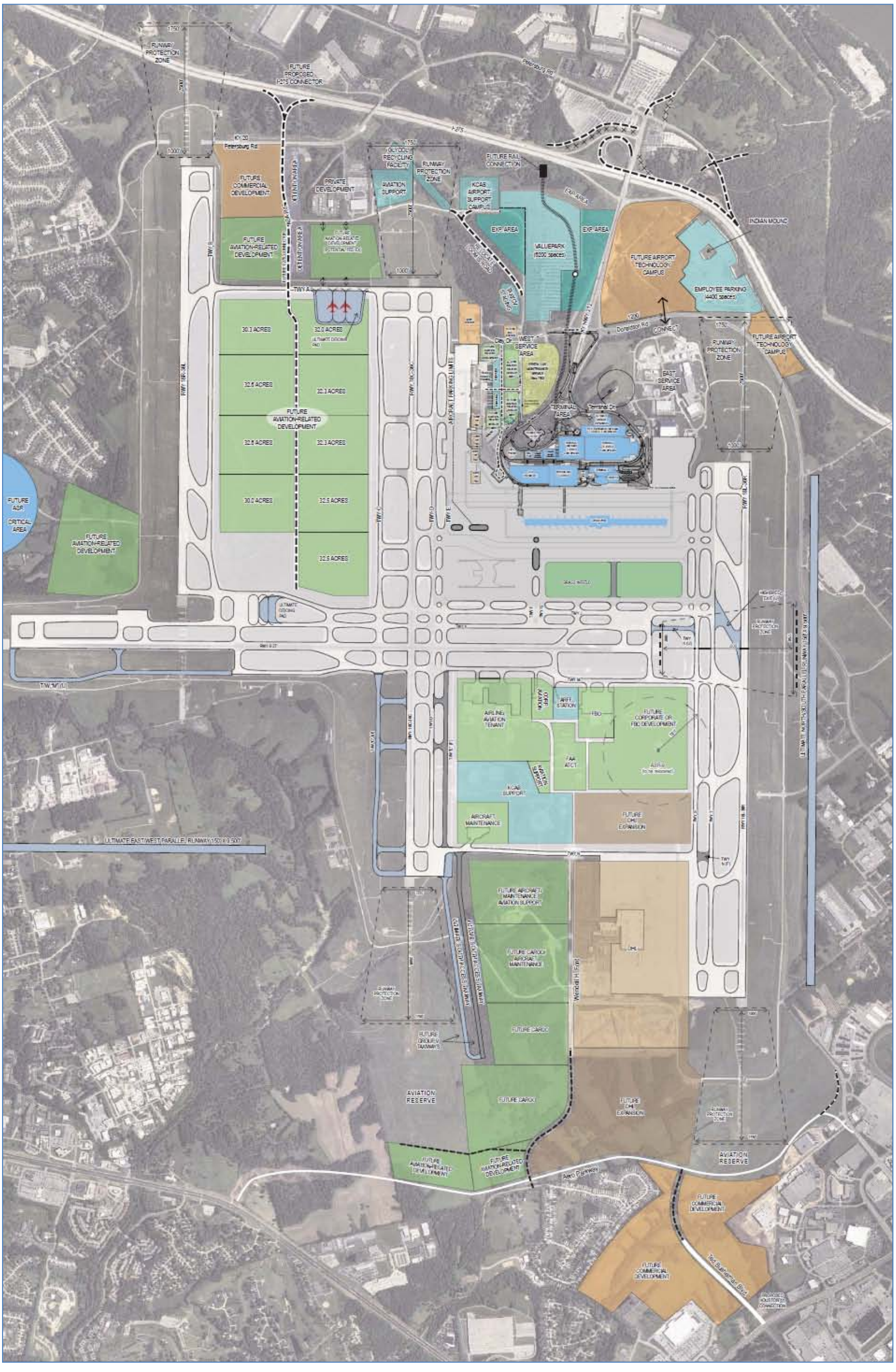
Future on-airport land use at CVG is described by the Airport's land use areas and shown in Figure 6 - 1.

6.1.1. ROADWAYS AND ACCESS

Improved access to/from the Airport's central terminal area will be achieved through geometry improvements at the intersection of KY212 and I-275.

As depicted in Figure 6 - 1, a new roadway will be required to support development between Runways 18R/36L and 18C/36C. A connection to/from I-275 would be beneficial to provide better access and relieve congestion as traffic volumes increase with development. However, this interchange is not currently a part of the OKI Transportation Improvement Plan and will require a Interchange Justification Report prior to its implementation.

Figure 6 - 1: Future On-Airport Land Use



Source: Jacobs Engineering Inc., April 2012

Improved access to the South Airfield area is expected to result from Boone County's completion of Aero Parkway (previously identified as South Airfield Bypass Road). This four-lane divided roadway, constructed to improve existing congestion south of the Airport, was completed in October 2012. A two-lane extension of Wendell Ford Boulevard is proposed to bisect the south airfield area from north to south, bounding DHL on the west. Wendell Ford will connect to Aero Parkway in an unsignalized intersection which will also extend to connect to Zig Zag Road.

6.1.2. TERMINAL AREA

The future land use within the terminal area is proposed to remain relatively constant during the planning period. These include the existing terminal building terminal roadways and auto parking structures. The majority of the changes in land use would result from the relocation of rental car operations from the West Service Area into the proposed consolidated rental car (CONRAC) and Quick Turn-Around (QTA) facilities in the central terminal area. These facilities are proposed to be located in the general vicinity of existing Terminal One and Terminal Two.

Public parking is planned to occupy up to half of the CONRAC structure at opening. The structure would also include a Customer Service Area, which would be connected to the terminal building by an enclosed walkway. The CONRAC is proposed to function as a multi-modal facility with accommodation for a TANK stop. A small parking area for staging commercial vehicles (chiefly taxis, and limos) could be located between Terminal 3 and the CONRAC structure if needed. It should be noted that rental car companies would maintain smaller service facilities in the West Service Area to handle more extensive maintenance of vehicles and for receiving new vehicles transported on large trailers.

By 2025, the terminal exit road is proposed to be realigned to the north to allow the existing Terminal 3 Garage to be expanded to the north in a new seven-level addition As part of the proposed expansion, two double helices would be constructed to provide ingress and egress to the expanded Terminal 3 Garage complex and a proposed future New Garage 2.

By 2030, the existing Terminal 2 Garage is proposed to be demolished and replaced by a five-level structure. Each level would tie into the Terminal 3 Garage. By 2035, the Terminal 3 garage would be renovated. This would include structural repairs and upgrades to conveyance systems, but would not add additional parking spaces to inventory.

6.1.3. WEST SERVICE AREA

The west service area land uses are generally those that support the terminal area functions or benefit from services available in the terminal area. Rental car service areas are planned to continue to reside in this area, which will be in close proximity to the proposed consolidated rental car facility. Future land use is expected to be a mix of general aviation, cargo, light maintenance such as GSE repair or avionics; ARFF Station, and Post Office. A new service station is planned just north of Donaldson Road for convenience to rental car returns and drivers using the airport. An alternate cell phone lot location is proposed to be sited on the south side of the rental car service area, a location that would support inspection of vehicles before they enter the terminal area. Improvements to the roadway network and utility infrastructure are proposed to support redevelopment.

Additionally, should a second Fixed Base Operator (FBO) express interest in operating at CVG, the Preferred Development Plan makes provision for this possibility in the West Service Area,

which places GA users closer to terminal area services as compared to existing general aviation infrastructure in the South Airfield Area.

6.1.4. EAST SERVICE AREA

Future land use in the East Service Area is proposed to remain consistent with current uses. The area would be comprised of airline and airport support facilities between Lincoln Road and the Runway 18L-36R RPZ. Airline cargo, maintenance and fueling, and miscellaneous KCAB maintenance and storage facilities could be located in this area, with capacity to meet future projected needs. The area west of Lincoln Road would make a logical location for expansion of terminal area functions, but is currently restricted by the Police and TSA ammunition storage magazine.

6.1.5. NORTH AIRFIELD

Land use within the North Airfield Area, which includes areas of non-airfield uses outside the airfield proper, is proposed to continue to support remote parking facilities, airport support infrastructure and airport access from I-275. The Preferred Development Plan has proposed that the highest and best use of the areas east and west of KY 212, between Donaldson Road and I-275 to be a commercial airpark development or airport technology campus. The best parcels with highway visibility would be reserved for the most techno-savvy tenants with secondary locations serving warehouse, distribution and trucking facilities that support or are complementary to the technology campus. In addition, a site adjacent to Petersburg Road is proposed for potential commercial development, appropriate for industrial or warehousing similar to the private development just to the east.

Future aviation-related land uses are proposed to be located north of Taxiway A, along with protection for detention areas directly east of a future I-275 connector. The site adjacent to the Runway 18C RPZ could be filled to the elevation of the airfield and support development of a potential FedEx hub with aircraft access to the airfield. Areas south of Taxiway A are proposed be comprised of aviation-related development, due to the excellent airfield access provided to the area between Runways 18C-36C and 18R-36L. Landside access would be provided by a central spine roadway under Taxiway A, connecting to Petersburg Road with a future I-275 connector. The connector would minimize commercial and passenger traffic interactions with the central terminal area. Aviation related development west of Runway 18R-36L and north of Runway 9-27 is severely limited due to the relatively close proximity of the property line with the existing runway. The addition of a parallel taxiway to the west to serve development would take up the space available for that development.

A proposed future light rail line right-of-way is proposed to be located west of Highway 212 in order to allow CVG to take advantage of a future rail extension to the area.

6.1.6. SOUTH AIRFIELD

Land Use within the South Airfield Area and north of Taxiway “N” is proposed to remain consistent with current uses during the planning period. These uses include general aviation, airport support, ARFF and ATCT facilities. The general aviation areas are anticipated to accommodate corporate aviation, aircraft maintenance and fixed base operators. While general aviation demand is not expected to increase significantly during the planning period without changes in tax laws, areas around the existing infrastructure have been reserved for expansion should market conditions change.

The existing ASR-9 radar and its associated 1,000-foot critical area limit potential expansion opportunities in a portion of the South Airfield. The Master Plan recommends that the existing ASR-9 be relocated to the western portion of the airfield northwest of Runway 9-27 and west of Runway 18R-36L when the FAA programs replacement of the facility. The relocation, while not currently required, would allow KCAB improved flexibility in developing the South Airfield. The available land area could be used for future GA expansion. Potential land uses for the area should be re-evaluated when the ASR-9 is relocated.

The areas south of Taxiway "N" and east of Wendell H. Ford Road are proposed to remain DHL-related land uses. The existing DHL facilities are expected to form the core of the operation and land north of Taxiway "N" and south of existing facilities is reserved to accommodate potential expansion. Future land uses west of Wendell H. Ford Road and South of Taxiway "N" provide potential aviation-related land use areas. Development in these areas may be induced by the completion of Aero Parkway to the south and a proposed South Access Taxiway to the west. The improved landside and airside access provides an opportunity to take full economic advantage of the significant land the Airport owns in the area. Aviation Reserve land uses are proposed in this area to protect the Airport from encroaching non-compatible land uses and to preserve areas for additional airfield development should it be required beyond the planning period.

South of Aero Parkway, the preferred development plan proposes the highest and best use on either side of the Houston Road connector as future commercial development such as low-rise office, light industrial, manufacturing, warehouse, and distribution facilities. These uses currently exist to the east of this area, and it is likely that they will grow into the KCAB properties.

6.1.7. WEST AIRFIELD

Future West Airfield land uses are shown to remain as proposed on the 2025 Master Plan Update: aviation-related development is planned north, west and south of the western half of Runway 9-27. The future ASR-9 Radar site is north of the west end of the runway. Access to this area would be via I-275 and KY 237 (North Bend Road). This area is not anticipated to see much development within the planning period due to the abundance of other developable property closer to the airfield.

6.1.8. EAST COLLATERAL DEVELOPMENT AREA

This area, located southeast of the intersection of Mineola Pike and Donaldson Road is proposed as an ideal location for future freight forwarding facility land uses because of its proximity to I-75 and I-275.

6.2. RECOMMENDED DEVELOPMENT PLAN

Improvements needed to accommodate projected Multi-Carrier activity were determined through demand/capacity analyses, with requirements are based on the volumes and distribution of passengers, vehicles, and aircraft using the airport. With the growth in originating passengers, landside elements such as parking, curb front and access roadways will require additional capacity through 2035. Although expected to grow, estimated connecting and total passenger volumes are projected to remain lower than pre-2007 levels throughout the forecast period. As such, airside elements such as terminal, concourses, aircraft gates, fueling facilities, and airfield have the capacity to accommodate forecast demand. In fact, due to the airlines' shift to larger

aircraft and efficiencies in filling the planes, the number of gates and concourses can be reduced through the planning period.

Along with activity-related demand, the costs associated with properly maintaining, operating, and modernizing existing facilities were projected for the parking garages, terminals and concourses. Although adequate for current use, some of these facilities may not be suited for long-term use. Aging facilities pose a challenge to efficient operations in terms of operating costs and suitability for the changing characteristics of activity. By identifying the timing and magnitude of critical investments, those elements were factored into facility planning alternatives. The Plan estimated total cost of ownership based on industry standards and historical data, which was used to make informed decisions on whether to plan to keep and rehabilitate a facility or to replace it, and in what timeframes those actions would need to be considered to optimize finances.

The Master Plan recommended improvement projects to meet forecast demand under the Multi-Carrier Scenario through the planning horizon in 2035 and to optimize ownership costs through facility replacement. For demand-based projects, triggers are linked to the PALs. Triggers for other condition-based projects are identified by year of anticipated need. The initial development year for the Master Plan Study was selected to be 2016, with a 20 year planning horizon through 2035. Due to uncertainties associated with long-range aviation demand forecasting, the implementation and financial plans focus on the first ten years, 2016 through 2025 to meet the Planning Activity Level 3 (PAL 3). Under the Multi-Carrier Scenario, PALs 1, 2, and 3 correspond to the years 2015, 2020, and 2025, respectively. PALs 4 and 5 correspond to 2030 and 2035.

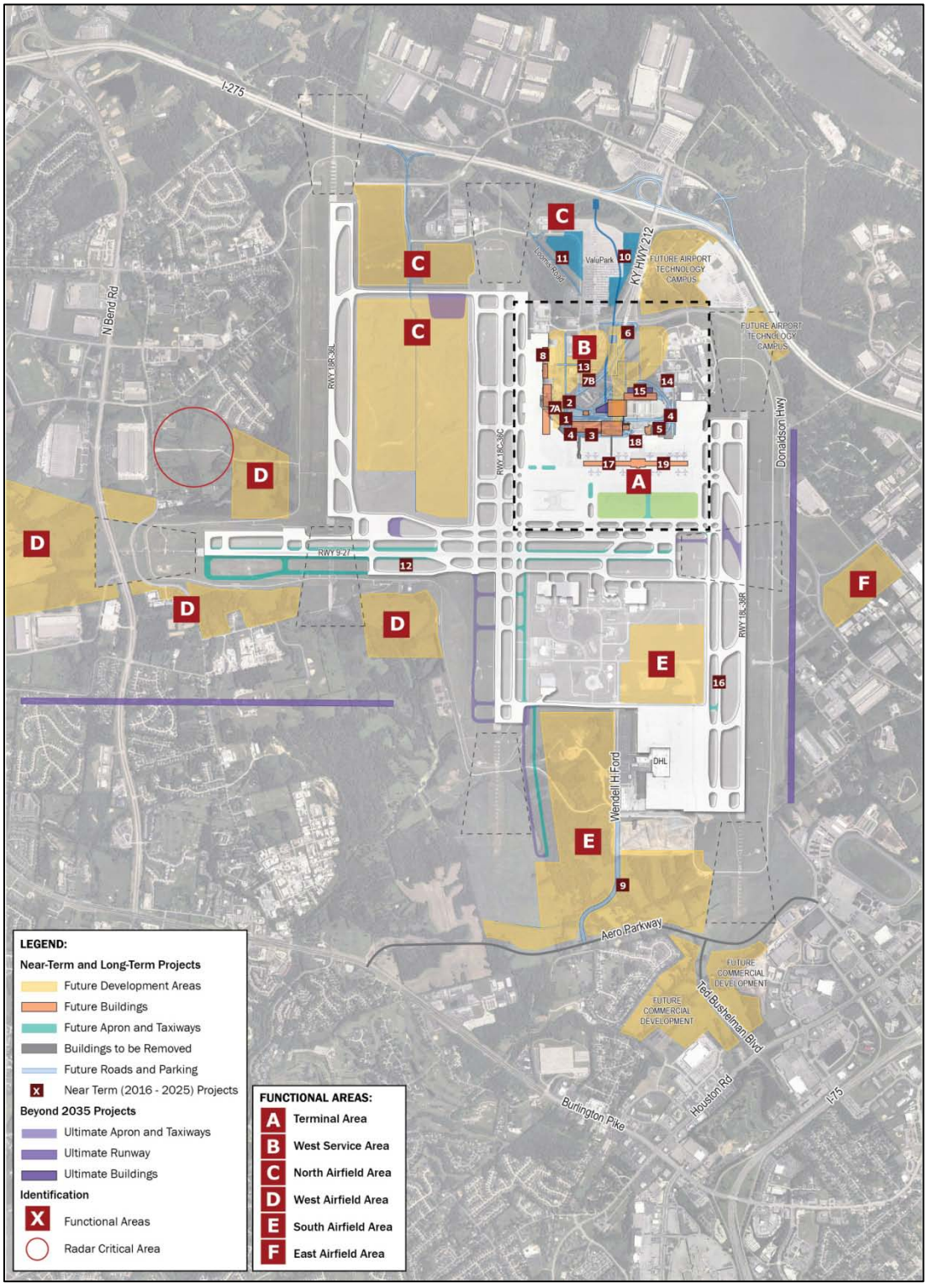
The Study assumes those projects currently being proposed by CVG, including the demolition of Terminals 1 and 2, will occur prior to 2015. Any delay in the completion of these projects by CVG will change the timing of the recommended development plan, and can be accomplished through changes to the phasing of the Plan.

Likewise, for those demand driven development projects recommended (for instance parking facilities), the timing for implementation may change if the activity levels in the Multi-Carrier scenario are not realized when forecasted. The phasing of projects can be adjusted to correlate to demand.

In addition to capital projects, the Plan identified Renovation and Renewal (R&R) projects in the near-term (through 2025). These projects are not dependent on demand, but will need to be accomplished regardless of the timing of the capital projects.

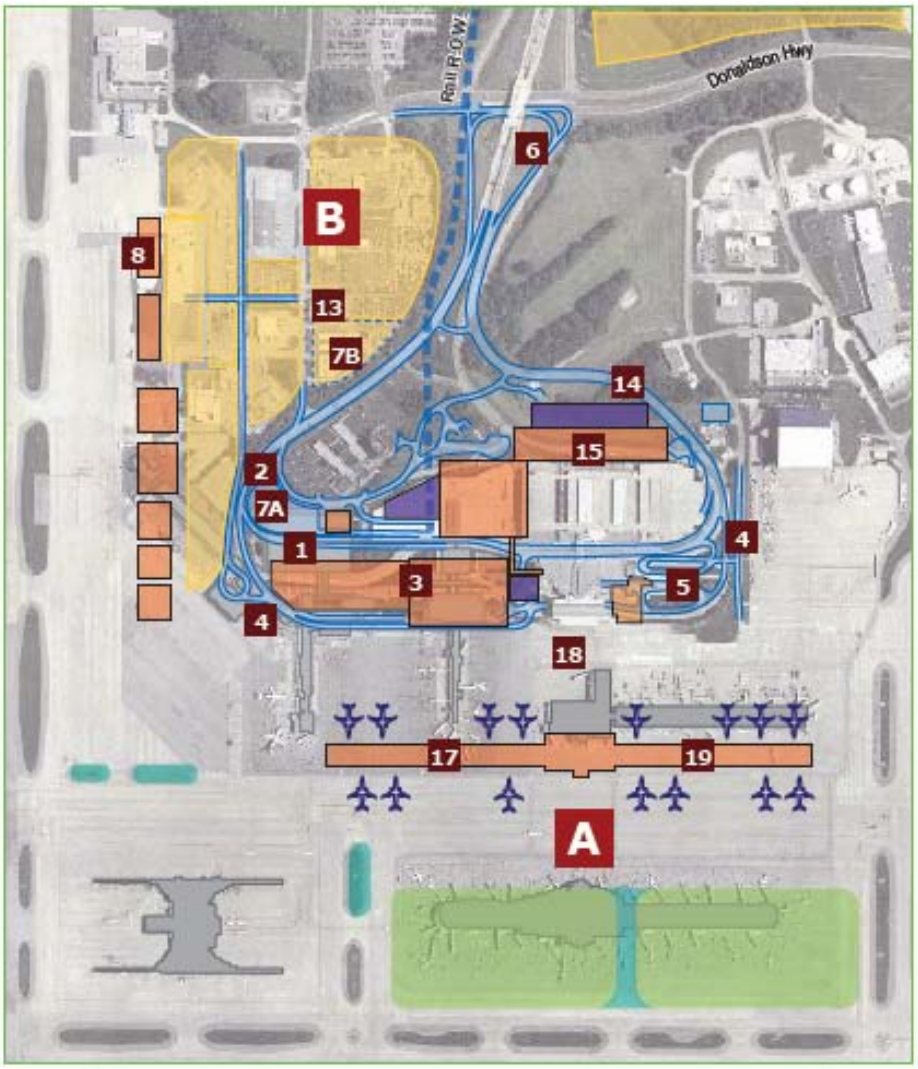
Proposed overall capital development is depicted in Figure 6 - 2, with terminal area projects, identified by Master Plan project number shown in Figure 6 - 3.

Figure 6 - 2: Proposed Overall Development Plan



Source: Jacobs Engineering Inc, November 2012

Figure 6 - 3: Proposed Terminal Area Plan



Source: Jacobs Engineering Inc., November 2012

6.2.1. TERMINAL AREA

Redevelopment of the terminal area landside is based on a response to the projected increase in local passengers and the need for safety and operational improvements in access to and from the terminal area. A major focus is on increasing the parking capacity from 7,431 spaces

to 12,150 spaces in a manner which reduces the overall average walking distance between garage spaces and the terminal. The Terminal 1 Garage is proposed to be demolished early in the planning period and inbound terminal roadways will be realigned to enable development of a close-in Intermodal CONRAC (Consolidated Rental Car) Facility, which would include rental car customer service counters, rental car pick-up and drop off, and an area in which vehicles could be serviced between rentals. Approximately 1,650 public hourly parking spaces and a TANK bus stop are also planned to be incorporated into the facility. The cell phone lot would be relocated and nearly doubled in size, either to allocation west of the CONRAC or in the West Service Area. Vehicle access to the ground transportation center (GTC) on the east side of Terminal 3 would be reconfigured and access control updated to improve operational efficiency.

Additionally, the return to terminal road would be reconfigured to create a U-turn under the Donaldson Road overpass to create a safer and more efficient traffic flow.

6.2.1.1. Landside:

In the 2020 timeframe, the outbound terminal roadway would be realigned to improve safety and traffic flow, and to allow expansion of the Terminal 3 Garage to the north. The realignment would improve traffic flow by eliminating multiple merges and would allow enough space to support additional parking expansion beyond 2035. The initial expansion would add 3,150 spaces and would include a new entry plaza, up and down helices for direct access to floors on which parking spaces are available, and reconfiguration of the exit plaza.

In the longer term, as additional parking is needed, the Terminal 2 Garage could be demolished and replaced with a 7-story expansion from the Terminal 3 Garage, providing an additional 4,200 spaces. A conditioned walkway would tie the new garage to Terminal 3 for a more direct route for passengers using the new Garage 2. Beyond 2035, if needed, this garage could be expanded to the west.

In keeping with the region's plan for light rail to connect Northern Kentucky – and particularly CVG – to the Cincinnati central business district, an intermodal station location is planned in the ValuPark (long-term parking) lot. A light rail corridor alignment would be maintained to connect the future regional rail line into the terminal area just west of future Garage 2.

6.2.1.2. Concourses:

Condition assessments and cost of ownership analysis found that significant investments should be expected in Concourses A and B in approximately 2025 and 2030, respectively. Therefore, alternatives evaluated replacement or renovation of those facilities in those timeframes. Until then, airside facilities can continue to serve passenger needs, following the "Airside Business as Usual" Alternative. If facility conditions warrant, the planning and design of a new Concourse A would begin at the end of the Near Term (2016 – 2025) with construction to follow. The new concourse would replace existing Concourses A and B, which would be demolished as the new concourse is completed.

6.2.2. WORK PRIOR TO PLANNING PERIOD (BASELINE PROJECTS)

Because the planning period does not commence until 2015, conditions at the start of the plan will be different from current conditions. A number of baseline projects are assumed to have been completed by that time. These projects enable the initial Master Plan projects to proceed. Projects include:

- Mural Removal
- Cable Identification and Reroute - to clear telecommunications infrastructure for reroute
- KCAB Staff relocation from Terminal 1
- Demolition of Terminals 1 and 2 and associated infrastructure

6.2.3. MASTER PLAN PROJECTS – NEAR-TERM CAPITAL PROJECTS

These projects are needed to meet demand through PAL 3, to improve customer service and safety, or to replace aging facilities within the first ten years of the planning period, from 2016 - 2025.

1. Garage 1 Demolition

This project is proposed to demolish Parking Garage 1 (2 levels, 179,643 SF surface lot with 146,221 SF parking deck and 4,329 SF elevated connector to Garage 2), restore the site to grade with asphalt pavement, graded to drain, and abate hazardous materials including transformers, hydraulic fluids, etc.

Existing entry plaza between Garages 1 and 2 would remain in place and operational except for temporary closures needed for construction. Structure would be removed to a minimum of 18" below the ground level parking. Prior to demolition, electrical services that pass through the existing electrical room located underneath the ramp would be relocated.

Previous studies show that electrical feeds from this room serve the entrance plaza (assume the plaza west of Garage 1), a lift station north of the garage, and the exit plaza. Service will need to be maintained to all facilities served from this room which will remain in service during and after the garage demolition. Reroute may include construction of a new electrical feed in ductbank from Terminal 3 or another source, and possible construction of a new electrical room.

This project is required to allow realignment and reconstruction of the inbound terminal roadway supporting development of the CONRAC and QTA, which partially cover the existing Garage 1 footprint.

2. Inbound Terminal Roadway Realignment

The inbound terminal roadway is proposed to be reconstructed and realigned from adjacent to the cell phone lot, connecting to the upper and lower level roadways adjacent to the Terminal 2 bag building. A commercial vehicle (CV) road with provision for CONRAC and public parking access would also be constructed. The CV road is proposed to connect to the existing roadway under the security building. Cell Phone lot and its access to the terminal curbfront is expected to remain active during construction; however the entrance and exit would be reversed with roadway realignment. The multi-tenant cargo building parking and access would remain operational. The design would have to be coordinated with that of the CONRAC and QTA for access and other requirements. Pipe casings for QTA fueling lines will be installed under the inbound terminal roadway to allow later construction of the fuel storage area and piping without disturbing the roadway. Work would include installation of all temporary and permanent wayfinding, regulatory signage, and pavement markings, a new AOA security fence along south side of commercial vehicle road, and new storm drainage, water, electrical and lighting for realigned roadways.

Utility adjustments are proposed for water, sanitary sewer, gas, telecomm to provide for new construction. A new 12" water main should be constructed to connect the existing 12" water main at the multi-tenant cargo building to the water main at the southwest corner of Garage 2 (approximately 850 LF). Existing waterlines serving Terminals 1 and 2 could be removed and capped.

The project would also include installation of infrastructure (hardscape, electrical and telecomm/data) for commercial vehicle access control, coordinating with access control provider to identify specific locations. Existing roadways and pavements no longer in use are proposed to be removed, and disturbed areas restored with irrigation and landscape.

The entrance to Garage 2 is proposed to be reconfigured to enter the garage at the west end rather than from the south, to enable construction of the elevated roadway. The entrance plaza would be relocated to the north and new driveways constructed into the garage, removing low perimeter walls as necessary to create access. New perimeter walls are proposed at the existing south entrance to block ingress/egress.

After traffic has been transitioned to new roads the existing terminal access roads no longer in use would be demolished. Water, gas, and sanitary lines are proposed to be removed and capped. Electrical and telecomm cabling not required for service to other facilities would also be removed along with all roadway lighting serving the previous roadway alignment. Drainage structures and lines would be removed to the extent possible while still providing drainage for the site. At the end of construction, the old roadway site is proposed to be graded to drain, free of construction debris and rubble. Landscaping and full restoration would be addressed under the CONRAC project.

This project is necessary for development of the CONRAC and QTA, which will be located on the footprint of the existing inbound terminal roadways.

3. Intermodal CONRAC Center

The project is proposed to include building a 6-level structure to accommodate Rental Car Ready/Return and Storage (1,650 stalls), Rental Car Customer Service Area (22,423 SF), public parking on the top three levels with 1,650 stalls, and a regional bus station. The CONRAC/parking structure would be served by two dual thread helixes to serve each level of the facility. One thread is proposed to serve rental cars and the other public parkers. A separate revenue control system would be installed for public parking including entrance gates with ticket spitters and exits with pay capabilities. There would be no manned cashier booths. The revenue control system would be integrated with KCAB's main parking access revenue control system. Public parking is also anticipated to have a Parking Guidance Information System to advise drivers via dynamic message signs on the inbound roadway of parking availability in that facility.

A Quick Turn-Around (QTA) Facility would be incorporated into the garage (to the extent possible) or will stand alone adjacent to the facility. It would accommodate 18,550 SF of administration space, 55 fueling/car prep positions, 15 car wash facilities, 9 vehicle maintenance bays and vehicle stacking/staging/storage space for 1350 vehicles. QTA facilities should be covered, which could be accomplished by constructing a two-level facility with storage above. It is anticipated that fueling will need to be open air (not in garage) with shade structures. Fuel storage and off loading area are proposed to be constructed in an area north of the

QTA/CONRAC on the north side of the inbound terminal roadway, including access for fuel trucks into and out of the site. Fuel lines would be constructed through casings under the inbound roadway (casings will be installed with the roadway project) and into the QTA fueling facilities.

A conditioned pedestrian bridge is proposed to connect the customer service area of the CONRAC/parking garage to Terminal 3 ticketing and baggage claim levels, with vertical circulation. The bridge should be capable of receiving a connection from a future pedestrian bridge from future Garage 2.

Disturbed areas adjacent to the CONRAC, QTA and roadways are proposed to be restored with landscaping and pedestrian walkways.

This project is required to improve customer service and to provide additional parking capacity as may be needed to meet demand.

4. Commercial Vehicle Access Control System

This proposed project provides access control system for commercial vehicles on both the east (1) and west entrances and exits (up to 4) to the commercial vehicle road and GTC, respectively, and also at the Limo/CV/Taxi staging lot west of Terminal 3. Project would include all system controls, cabling and integration with other access control and security systems. The access control system would need to be installed with the new CV Roadway under Project 6, Inbound Terminal Roadway Realignment.

This project is required to support the physical and operational changes to the GTC and proposed commercial vehicle road that will be constructed as part of the inbound roadway realignment and CONRAC projects.

5. GTC Improvements

The Ground Transportation Center (GTC) east of Terminal 3 is proposed to be modified to create new entry from Lincoln Road, reconfigure the vehicular flow within the GTC, and provide commercial vehicle staging areas. A small (approximately 22,400 SF) Limo/CV/Taxi staging lot would be constructed on the west side of Terminal 3, including access to the terminal curbfront and the CV roadway. Addition of the east Lincoln Road entrance would require relocation of the Lincoln Road AOA Security Gate on Lincoln Road to the south, including fencing, gates, access controls, CCTV, pavement, markings, signage and other appurtenant features. Access to the GTC would be maintained during construction. Existing roadways are proposed to be re-marked with the new circulation plan, including two-way traffic under the Security Building to serve the Limo/CV/Taxi staging lot. Access control equipment for the GTC and CV Road would be included in Project 7, Commercial Vehicle Access Control System.

This project is needed to provide greater capacity and flexibility of operations of the GTC to improve overall customer service.

6. Return to Terminal Road

Construction of a new return to terminal road is proposed on the southern eastbound lane of Donaldson Road at the underpass with KY 212. New dedicated turn lanes would be constructed into and out of the turn-around lane from the KY 212/Donaldson Road access ramps. Concrete barriers would be installed between eastbound lane and return lane, along

with regulatory and wayfinding signage and new pavement markings. Work must be coordinated with and approved by the Kentucky Transportation Cabinet.

This project improves safety of vehicles in the terminal area by removing the stop intersection and quick weave that is currently required on the return to terminal roadway.

7. New Cell Phone Lot

New Cell Phone Lot will include pavement, markings, signage (regulatory and wayfinding), FIDS, lighting, landscaping and infrastructure for vending (power, data, water) in one location. The 90,000 SF lot will accommodate over 225 vehicle parking spaces with ample space for maneuvering large vehicles, which would be needed for a vehicle screening operation. Entrance will be from the inbound terminal roadway, with exits to the lower level roadway and parking access roadway. Upon opening new cell phone lot, concrete barriers will be installed at the entrance and exit to the existing cell phone lot and wayfinding signage to that location will be removed.

This project is required to increase the size of the cell phone lot, while providing a location that can accommodate vehicle inspections in high security conditions.

8. Multi-Tenant Cargo Facility

Construction of a new 20,000 SF multi-tenant cargo facility as proposed in the West Service Area would replace the existing multi-tenant cargo building. The new building would be conditioned shell, ready for tenant finish out. Project includes truck bays and parking, and auto parking. It would utilize existing access from Clay Drive, and construct a new roadway from Clay Drive to the south side of this development, tying back into Loomis Road. After completion and relocation of tenants, the multi-tenant cargo building would be demolished.

Timing of this work will be determined by the condition of the existing multi-tenant cargo building, which is already in need of significant upgrades. The new building should be constructed and tenants relocated before a major renovation investment in the existing facility is needed. Although no additional demand is expected to require new or additional facilities, if such demand is realized, then consideration should be given to earlier construction of this facility.

9. Wendell H. Ford Blvd. Extension and Infrastructure for South Airfield

Wendell H. Ford Road is proposed to be reconstructed to extend to the south to connect with Aero Parkway. The roadway would be two-lanes, each 13 feet wide, with 6-foot shoulders, lighting, signage and markings. Roadway section would include bar-ditches for surface drainage. Utilities proposed for construction with the roadway include: 8-inch waterline, gravity sanitary sewer, and communications duct bank for later fiber installation by tenants. Gas and electric would be extended by Duke Energy following a study to determine needs of new clients.

Infrastructure improvements would connect to the utilities on Wendell H. Ford Blvd. to support development in the south airfield for DHL and other expansion as well as development of commercial areas south of Aero Parkway (study Areas B and C). This includes major utility connections that would allow incremental development of these tracts as prospective tenants are ready to build facilities. Water distribution lines along Wendell H. Ford Blvd. would be connected to the west along the Aero Parkway to tie into the Northern Kentucky Water District system. Sanitary sewer would be provided to the area north of Aero Parkway by approximately

7,000 linear feet of line flowing west to Burlington Pike. The proposed commercial development area south of Aero Parkway would be served by a lift station and approximately 9,300 linear feet of force main pumping north to the lines along South Airfield Drive.

This project is demand-driven. It would be needed to support commercial development south of the Aero Parkway and for future South Airfield tenants. Timing of this work should be based on growth of activity in the South Airfield. The extension of Wendell H. Ford Blvd. provides improved traffic flow to DHL and future tenants. Likely timing would be in conjunction with DHL's growth to the south or development by a major tenant. Work could be done in increments as development occurs, but for purposes of this study, it is treated as a single project.

10. Expand Long-Term Public Parking – Phase 1

This project proposes to expand the existing long-term public parking (ValuPark) to the east and southeast, to provide 544 parking spaces. The parking lot would be asphalt with area lighting, pavement markings, and drainage. Proposed work includes site clearing and drainage to accommodate the expansion. No additional revenue control would be required. This incremental parking expansion should be easy to design and construct quickly to add to the parking inventory if demand grows as projected in the Multi-Carrier Scenario.

This project is demand-driven. Parking demand will grow with the increase in originating passengers. Under the Multi-Carrier Scenario, expansion is needed by 2016. Under the Baseline forecast, this expansion is not needed until 2031.

11. Loomis Road Realignment and Long-Term Public Parking Expansion – Phase 2

This project is proposed to expand the long-term public parking lot (ValuPark) to accommodate additional growth in long-term parking demand. Expansion would require realignment of Loomis Road to the west. Expansion of approximately 60,826 square yards of parking lot would provide 1,684 surface parking spaces. Work includes site preparation, grading, drainage, lighting, signage, pavement markings, and security. No additional access control would be included.

Loomis Road is proposed to be realigned as a two-lane roadway with 12' lanes and 6' shoulders. Realignment length would be approximately 2,400 linear feet. Utilities along Loomis Road would also be realigned. Approximately 1,700 linear feet of sanitary sewer line would be relocated, drainage lines extended to the west, and roadway lighting reconstructed with new roadway alignment.

This project is demand-driven. Parking demand will grow with the increase in originating passengers. Under the Multi-Carrier Scenario, expansion would be needed by 2017 if the Phase 1 Long Term Public Parking Expansion project precedes it. Under the Baseline forecast, this expansion would not be needed until 2034.

12. Airfield Modifications to Accommodate Group VI Aircraft

Currently KCAB is working with The Boeing Company to identify how the B747-800F can safely use the airfield without significant additional construction. However, given the anticipated increase in DHL's use of the B747-800F and CVG's designation as a diversion airport for Group VI aircraft, the FAA has requested that KCAB add a project of airfield improvements which would fully accommodate Group VI aircraft. The B747-800F meets Aircraft Design Group (ADG) VI and Taxiway Design Group (TDG)-6. Because the specific design criteria and airfield geometry have not been evaluated and reviewed with the FAA, the Master Plan took a

conservative approach of meeting ADG VI and TDG-7, which would accommodate any Group VI aircraft.

If demand is realized and funding is available, work would include widening Runway 9-27 to 200 feet with 40-foot shoulders, extending parallel Taxiway M to the end of Runway 9-27, reconstructing the existing length of Taxiway M to 82 feet wide and constructing 35-foot shoulders for the full taxiway length. Runway-to-taxiway separation and clear areas would be evaluated and modifications made as necessary to adjacent features. It is expected that with the Category 1 approach on Runway 9-27, the existing 400-foot minimum runway-to-taxiway separation would be adequate. However, the extension of Taxiway M should maintain a 500-foot separation as previously planned. New lighting, signage and markings would be required. The specific configuration and scope of reconstruction will be determined in a separate design project. The cost included in the CIP is a high-level estimate which will be refined as the preliminary and final designs are completed.

13. West Service Area Infrastructure

This proposed improvement includes road and utility infrastructure to support redevelopment in the West Service Area. The types of facilities in this area are expected to be a mix of KCAB-constructed (multi-tenant air cargo, airport support) and tenant-constructed (FBO hangars, private hangars, rental car, service station) facilities. Installation of infrastructure is proposed to support development opportunities but not be so restrictive as to reduce flexibility for prospective tenants' development needs. The project would include 3,000 LF of two-lane roadway, replacement and adjustment of utilities including water distribution (8" and 12" lines), gas distribution, storm sewer and sanitary sewer.

This project is demand-driven in that would support commercial development in the West Service Area and enhance utility service reliability to tenants. However, the poor condition of existing utilities, indicated by frequent breaks and service interruptions, may accelerate the timing of this work.

14. Outbound Terminal Roadway Realignment

The outbound terminal roadway is proposed to be reconstructed and realigned from immediately past the terminal curbfront to the intersection with Donaldson Road, including the KY212 on-ramp and Donaldson Road down-ramp, and crossover for state maintenance vehicles south of Donaldson Road. The hotel exit road would be reconstructed to connect to the new outbound terminal road and provide access to the airfield electrical vault and deicing pump station. A new parking lot for the police building would be constructed to replace the parking that would be demolished with the roadway realignment. At a later time the Airport may wish to remodel the Police Building to move the entrance to the north, but that is not included in this project. Modifications to KY 212 and Donaldson Road must be coordinated with and approved by the Kentucky Transportation Cabinet.

The parking exit plaza in Garage 3 is proposed to be relocated to exit to the south on the east end of the existing garage, with exit to the outbound roadway via a new exit road from the east side of the existing garage. Eight exit lanes would be provided (same as existing) adjacent to approximately 4,200 SF administrative space to mirror the existing space adjacent to the exit booths. New exit gates and cashier booths would be included, and all lanes are proposed to have automated pay stations.

Both upper and lower curbfront roadways would be restriped to reduce to a single lane leaving each terminal curb. The single lane section would be maintained until the three roadways (upper level descending, lower level at grade, and the relocated Garage 3 exit roadway) meet to form the three lane outbound roadway.

The site work would need to be completed to allow the roadway realignment, the police station parking lot replacement, and expansion of Garage 3 to the north, including installing box culvert to handle the drainage channel flow, providing site drainage, adjusting existing and installing new utilities, and filling the area between the existing and realigned roadway. Telecomm and electrical utilities running along the north side of the roadway would be encased in a concrete tunnel. Existing outbound roadway would be demolished and the site restored with grading and landscaping. The project would also install lighting, wayfinding and regulatory signage.

This project is necessary to allow expansion of Garage 3 to the north for additional public parking. Timing is dependent upon that of demand for close-in public parking. Design work should begin 4 years prior the point at which a shortfall in close-in public parking is projected.

15. Expand Garage 3 – Phase 1

The initial expansion of Garage 3 to the north is proposed to be 3 bays on 7 levels (180 feet by 843 feet), and served by two dual-thread helixes at the east and west end of the expansion. This expansion would add 3,150 parking spaces to the public close-in parking inventory. The west end (up) helix would be designed to serve all floors of Garage 3 (new and existing) with potential to serve all levels of future Garage 2. A new parking entrance plaza would be constructed west of the garage expansion with five entrance lanes. The entrance road would be realigned to connect with the new entrance plaza. (Other roadway work would be completed under Project 14, Outbound Terminal Roadway Realignment.) Work would include pedestrian vertical circulation (elevators and stairs), lighting, telecomm, security (CCTV), access control, pavement markings, landscaping and regulatory and wayfinding signage. The contractor would need to maintain ingress and egress to the existing garages at all times during construction.

This project is demand-driven. Design work should begin 3 to 4 years prior to the point at which a shortfall shortage in close-in public parking is projected.

16. Taxiway N Extension to Taxiway T

This project is proposed to extend Taxiway N to the east to connect to Taxiway T. The 75-foot wide taxiway extension would include edge lighting, guidance signs and pavement markings. Grading and drainage would be modified. Disturbed infield areas would be hydro-mulched.

The project is needed to provide greater operational efficiency for DHL's arrivals and departures.

17. Concourse A Replacement, Phase 1 – Programming and Design

The initial element of work of this proposed project will be terminal programming. Programming for the entirety of the Concourse A replacement would need to precede the design phase of work. Programming and design is proposed to be performed in the near-term – prior to 2026 – to allow construction to proceed in 2026.

Design in this project would be for Phase 1 of the new concourse and central node plus demolition of the existing concourse after completion. The concourse would tie into the existing

tunnel, providing passenger access up to the new facility. Phase 1 would consist of 451,344 SF of concourse and ground level service areas, accommodating 21 airline gates with loading bridges. Apron, with drainage, fuel hydrant system, and utilities is also included.

A new 26,000 FIS facility is proposed to be constructed on the east side of Terminal 3. One of the train tunnels would be refurbished as an access walkway from two international gates in Concourse A to the new FIS. Train cars and equipment would be removed, vertical circulation (stairs, elevators, escalators) installed at either end, and moving walkways installed in the tunnel. This would require an expansion of the Terminal 3 building shell adjacent to the Security Building.

With some modifications to be performed in this project, the existing automated baggage handling system would deliver outbound bags to four new make-up units in the apron level of the new concourse. Inbound baggage would be transported by tug and bag carts from the aircraft to baggage claim inputs in Terminal 3. The existing Central Utility Plant in Terminal 3 would need to be expanded or upgraded to serve both phases of the new concourse.

At completion of tenant move-in, existing Concourse A would be demolished to make way for Phase 2 construction. Demolition would include abatement, demolition of the structure and foundation to 60 inches below grade, removal of the hydrant fueling system, removal of drainage structures and piping, apron demolition as needed to adjust ramp grading and drainage, and removal and disposal of jet bridges. The site would be restored with structural fill to the subgrade level of the proposed apron and Phase 2 concourse.

In the period between 2020 and 2030, when the new Concourse A is in operation along with Concourse B, the location of Concourse A as proposed would constrict aircraft passage between the concourses to dual Group III taxilanes or a single Group IV taxilane. Remaining operational aircraft gates in Concourse B would be located to the eastern end and south side of the concourse to minimize operational impacts between concourses. The duration of this restriction could be minimized to a period of 24 to 30 months if Concourse A replacement construction were completed in a single project or a series of continuous projects. The south side of Concourse B would retain its current operational flexibility with dual Group IV taxilanes.

The driver for this project is facility condition. Existing Concourse A was renovated in 2012 to extend its life for approximately 10 years. Phase 1 replaces the existing concourse, and thus the capital cost is offset by the elimination of major renovation costs. Significant capital expenditures will be needed for further life extension if replacement is delayed. Phase 2 of the concourse replaces Concourse B, which is projected to need significant renovation around 2030. If construction of Phase 1 begins in 2026, Concourse B can be vacated by 2030.

18. BHS Replacement - Design

The proposed work includes relocating the Baggage Handling System (BHS) screening matrix to Terminal 3 with outbound conveyors delivering screened bags to make-up devices in new Concourse A and continuing to serve the gate delivery system in Concourse B. The proposed project requirements were based on current TSA requirements. The project would include new system controls for the entire system. Existing infrastructure and structural supports will be reused to the extent possible. Screening matrix is anticipated to be located in the western basement of Terminal 3. As with the Concourse A, the programming and design of this work will be done as part of the Near-Term Projects and in conjunction with the Concourse A

replacement programming and design prior to 2026, so that construction can proceed with Concourse A construction in 2026.

This project is driven by the condition and high operating costs of the existing system. There is adequate capacity in the system to meet forecast demand, however system components are aging and the bag delivery system is more suited to a hub airport with center of activity in Concourse B, than an O&D airport. If possible, the project should be coordinated with TSA's upgrading of the existing screening equipment.

19. Concourse A Replacement, Phase 2 - Design

Phase 2 of the proposed Concourse A Replacement would construct the east wing of the new concourse, consisting of 260,362 SF of concourse and ground level service areas, accommodating 15 airline gates with loading bridges. Apron, with drainage, fuel hydrant system, and utilities would also be included. Four additional bag make-up units would be constructed in Phase 2, with modifications to the existing baggage handling system and controls to feed the units.

6.2.4. NEAR-TERM RENOVATION AND RENEWAL PROJECTS

Within the development of alternatives, the Forward-Looking CI Tool was used to develop and project ownership costs for key facilities. These costs included both Ownership Costs (operations and maintenance and energy costs) and Capital Costs associated with deferred maintenance, modernization and renewal. Projections of capital costs were unconstrained in that they included all work necessary to keep the facilities in top condition through the life of each facility evaluated. As part of the refinement process, the Airport re-evaluated the capital costs associated with ownership to better define specific projects and funding needed. This re-evaluation resulted in a set of Renovation and Renewal projects for which the budgets were constrained given other financial obligations and priorities.

These projects comprise ongoing renovations and renewal of existing facilities that will remain in use over the near-term. They include both capital renewal and operation and maintenance (O&M) projects, but do not include day-to-day O&M work. In general, the projects provide for:

- Terminal and concourse conveyance system rehabilitation
- Terminal 3 Heating, Ventilation, and Air Conditioning (HVAC) upgrades
- Concourse B interior renovation
- Airside and landside upgrades to airfield pavements, terminal and non-terminal roadways, airport structures, and electrical vaults
- Terminal and equipment system upgrades including Concourse A and B loading bridge refurbishment, train drive system renovation, baggage system repair and refurbishment and IT infrastructure and Flight Information Display System (FIDS) upgrades
- Parking garage repairs
- Terminal 3 and Concourse B utility upgrades for electric, water and sewer
- Terminal 3 and Concourse A carpet, podiums, conveyance, electrical and plumbing upgrades.

6.2.5. LONG-TERM CAPITAL PROJECTS (2026 -2035)

These projects would be needed to replace aging facilities and to meet PAL 4+ demand, which under the Multi-Carrier Scenario would be scheduled in the 2026 to 2035 time period.

17. Concourse A Replacement, Phase 1 – Construction

Construction of new Concourse A and subsequent demolition of existing Concourse A would begin in 2026, with Phase 2 construction proceeding when demolition is complete.

18. BHS Replacement - Construction

Construction would begin with construction of New Concourse A.

19. Concourse A Replacement, Phase 2 - Construction

This project should be initiated as Concourse A Expansion Phase 1 is completed with demolition of the existing concourse.

20. Garage 2 Demolition

This project is proposed to demolish existing garage 2 (approximately 768,500 square feet on 3 levels with interior ramps and escalator/elevator/stair banks) for a loss of 1,500 public parking spaces. Work would remove piers to 10 feet below grade, barricade connections to Garage 3 and remove vehicle bridges connecting structures. Drainage lines would be removed and capped 10 feet from the perimeter of the structure, retaining some lines as needed for temporary drainage of the site. Sanitary sewer lines no longer in use that served Terminals 1 and 2 would be removed. Water, electrical and telecomm/data lines to remain would be protected and maintained operational. Revenue control equipment at parking plaza entrance would be removed and return to the Airport. The site would be regarded and restored to level dirt covered by 8 inches of base material, free from construction rubble or debris in preparation for construction of the new Garage 2.

Access to Garage 3 and all adjacent structures and roadways would need to be maintained during demolition.

This project is demand-driven in that it enables construction of New Garage 2, which expands close-in public parking capacity. Design work should begin 4 years prior the point at which a shortfall in close-in public parking is projected to allow time for demolition of the existing garage and construction of the new garage. Consideration should be given to demand and capacity prior to demolition to ensure that adequate spaces are available to mitigate the loss of the 1,500 spaces in this structure.

21. New Garage 2 Construction

This project proposes construction of new Garage 2 at approximately 480’ x 420’ to 7 levels, connected to Garage 3 at all levels, and served by the Garage 3 up helix on all levels. The garage would provide 4,200 spaces, or a net of 2,700 new spaces given demolition of existing Garage 2. A conditioned passenger walkway is proposed to be constructed from the south side of the new garage, over the terminal roadways, to tie into conditioned walkway between the CONRAC and Terminal 3. Pedestrian vertical circulation (elevators, stairs, and one bank of escalators in conditioned space) would be installed along with lighting, security, telecomm, wayfinding signage and pavement markings. Work would also include replacement of the secondary entrance into the garages to be utilized in emergency situations or where scheduled

maintenance would close the main entrance. The secondary entrance would have three ticket booths and would include lanes enter the west side of the new garage.

This project is demand-driven. Design work should begin 3 to 4 years prior to the point at which a shortfall shortage in close-in public parking is projected.

22. Concourse C Demolition

The proposed project includes abatement and complete demolition of Concourse C (224,944 SF) and restoration of the site with apron pavement. Basement would be removed and filled. Hydrant fueling would be removed. Chilled water loop from Concourse B which runs in the tunnel would be removed and capped, and the remaining system serving Concourse B should be rebalanced. The baggage conveyor in Concourse C and in the tunnel between Concourses B and C would be removed. All utilities would be removed and capped. The fiber optic line to fire station would be protected and maintained in operation unless the cable has been previously rerouted under another project. Glycol recovery system should be protected during construction.

This project is needed to reduce the high cost of ownership associated with an unused facility.

23. Concourse B Demolition

This project as proposed would abate and demolish Concourse B. Basement walls would be removed to 60 inches below grade and remaining structure would be broken or punctured to ensure subsurface drainage. Excavations would be backfilled with structural fill, and the site would be restored with a combination of apron/taxilane pavement and grass infield. Drainage would be modified to provide positive drainage from the restored site.

Abatement would be performed prior to demolition, and an allowance is identified for that work.

Utilities within the demolition site are proposed to be removed and plugged at the site limits. Hydrant fueling system piping, fittings, and equipment would be removed. The central plant would be decommissioned and all equipment and piping removed. Loading bridges would be removed and disposed of. The baggage handling system serving Concourse B would be decommissioned and conveyor and controls removed from the concourse and tunnel between Concourses A and B.

Train is also proposed to be decommissioned and equipment removed from tunnel. The south end of the tunnel would be reconstructed to create a ventilation pathway and egress point to the surface. A permanent wall with access-controlled doors would be constructed at the south side of the Concourse A vertical circulation area to block off the south end of tunnel from public access.

The need for this project is driven by facility condition. Concourse B is projected to need significant renovation around 2030, and thus the capital cost of replacing the concourse with a new Concourse A is offset by the elimination of major renovation costs in Concourse B.

24. North Airfield Utility Infrastructure

This proposed project correlates to water and sanitary sewer infrastructure in Areas A and H, which will support commercial development for the Technology Airpark. The existing 16” waterline cutting through the site is proposed to be relocated around the development area. A

new lift station and approximately 400 LF of force main would provide sanitary sewer service to the area east of KY 212. Areas to the west could utilize the existing gravity sanitary sewer system.

This project is demand-driven. It supports commercial development north of Donaldson Pike. Work would be triggered by a new tenant developing facilities in the area.

25. West Airfield Utility Infrastructure

This proposed project correlates to water and sanitary sewer infrastructure in Area D on the southwest side of the airfield, which is proposed for developed primarily as airfield support. Approximately 6,500 LF of 8" waterline would be needed to loop the existing system in Area D to the line on Wendell H. Ford Blvd. at the northwest corner of DHL. Approximately 5,000 LF of gravity sanitary sewer would flow to the south to tie to the proposed line along Aero Parkway.

This project is demand-driven, and would be triggered by a new tenant developing facilities in the area.

26. Northwest Airfield Utility Infrastructure

This proposed project correlates to water and sanitary sewer infrastructure in Areas F and G between Runways 18R/36L and 18C/36C and to the north of that area which are proposed to support future aviation related development and a possible site for FedEx expansion. The existing water distribution system along Taxiways A, B and C can provide water service for future development. Sanitary sewer service to the area would be provided by a new gravity line flowing to the north from the area south of Taxiway A and tying to the existing sanitary sewer system.

This project is demand-driven, and would be triggered by a new tenant developing facilities in the area.

27. I-275/KY 212 Interchange Improvements

This proposed project provides an alternative to the proposed direct connector fly-over from I-275 westbound onto southbound KY 212 (Terminal Drive), which was identified on the 2025 Master Plan and for which design had been undertaken. In this alternative project, the higher cost of the fly-over is replaced by improvements to the geometry of the loop ramp serving the westbound to southbound movement (the main movement into the airport). The radius of the loop would be increased, and the superelevation modified to ensure safe and efficient traffic flow up to the ramp's practical capacity. The on-ramp to westbound I-275 would be relocated to the north in order to accommodate the higher radius of the loop ramp and a signal would be added to the intersection. As with the previous fly-over design, the westbound off-ramps would be segregated and served from a two-lane collector-distributor roadway. The right lane would serve the exiting movement to Petersburg Road, along which off-airport private parking, airport-related hotels, and the warehouse and industrial development are located. The left lane would serve the traffic headed to the airport itself. This is expected to eliminate conflicts between traffic headed towards the terminal complex and the traffic bound for the airport's adjacent development.

This alternative would address the traffic congestion at the junction of the southside ramps which exit from or merge onto the eastbound freeway lanes. The provision of a southbound dual left-turn lane at this signalized intersection, coupled with the channelization of the heavy

northbound movement turning right onto the eastbound on ramp for I-275, would provide satisfactory traffic operations through the planning horizon. Due to the proximity of the signal to the bridge over I-275, the span would need to be widened to accommodate the dual left-turn lane bay, but such a cost is considerably less than the previously proposed fly-over structure.

An additional element of the proposed project would be construction of a secondary access point between eastbound I-275 and Ada Road, providing more direct access to Petersburg road from I-275 and more direct access to I-275 for future tenants in the northwest airfield and using Petersburg Road. This would require improvement of AOA road north of and including its intersection with Petersburg Road as well as deceleration and acceleration lanes and at-grade connectors off of and on to I-275. The intersection at Petersburg Road would initially be stop controlled rather than signalized.

This project is needed to improve safety at the interchange and to reduce congestion created by industrial and warehouse development to the north of I-275 which affects traffic coming to the airport. Although this project is identified in the Master Plan, funding responsibility would be coordinated with KTC given that the cause of the congestion is not airport traffic.

28. Taxiway "E" Extension

The project includes design and Construction of a new Group V Taxiway "E" extension south to Taxiway "N". The project will include two Group V connector taxiways to Taxiway "D", Medium Intensity Taxiway Lighting (MITL) and standard FAA signage. The extension of Taxiway "E" would be offset from its existing alignment to the east to allow a Group V (267-foot) separation between Taxiway "D" and Taxiway "E". This alignment would allow Group V aircraft to operate on the Taxiway "E" extension between the South Airfield and Runway 9/27. Grading and drainage will be modified. Disturbed infield areas will be hydro-mulched.

This project would allow for Group III or larger aircraft to avoid the GA areas adjacent to Taxiway "M" and the existing GA area.

29. South Access Taxiway

The project proposes design and Construction of a new Group V South Access Taxiway that would extend south of Taxiway "N" approximately 4,000 feet. The project would include Medium Intensity Taxiway Lighting (MITL) and standard FAA signage. This project would provide Group V access for a future extension of the south airfield area as well as a potential DHL expansion to the south and west. Grading and drainage would be modified to accommodate the taxiway development. Disturbed infield areas would be hydro-mulched.

This project would be needed to support tenant expansion in the south airfield, if there were demand for improved runway access and funding were available.

6.3. IMPLEMENTATION COSTS AND PHASING

Implementation costs include both capital costs and renovation and renewal costs. As the development concept was being refined, renovation and renewal costs were also being refined and re-evaluated by KCAB. Because of uncertainty in long-term costs, refinement focused on the near-term (2016 – 2025). These include renovation and renewal costs that will be required regardless of growth in demand or timing of the capital projects in the Development Plan.

The costs presented are total project costs, and inclusive of construction, design, planning and administration costs. Estimates of probable cost for each project are included in Appendix C.

Near-Term Capital projects which make up the Recommended Development Plan are presented in Table 6 - 1, along with their associated costs in 2012 dollars. The proposed schedule for implementation of the Near-Term Capital projects is presented in Figure 6 - 4**.** The years associated with each project are based on the Passenger Activity Levels forecasted under the Multi-Carrier Scenario to occur during the specified time periods. Renovation and Renewal costs are presented within the calendar years scheduled, in Table 6 - 2: Renovation and Renewal Projects (2016 – 2025)

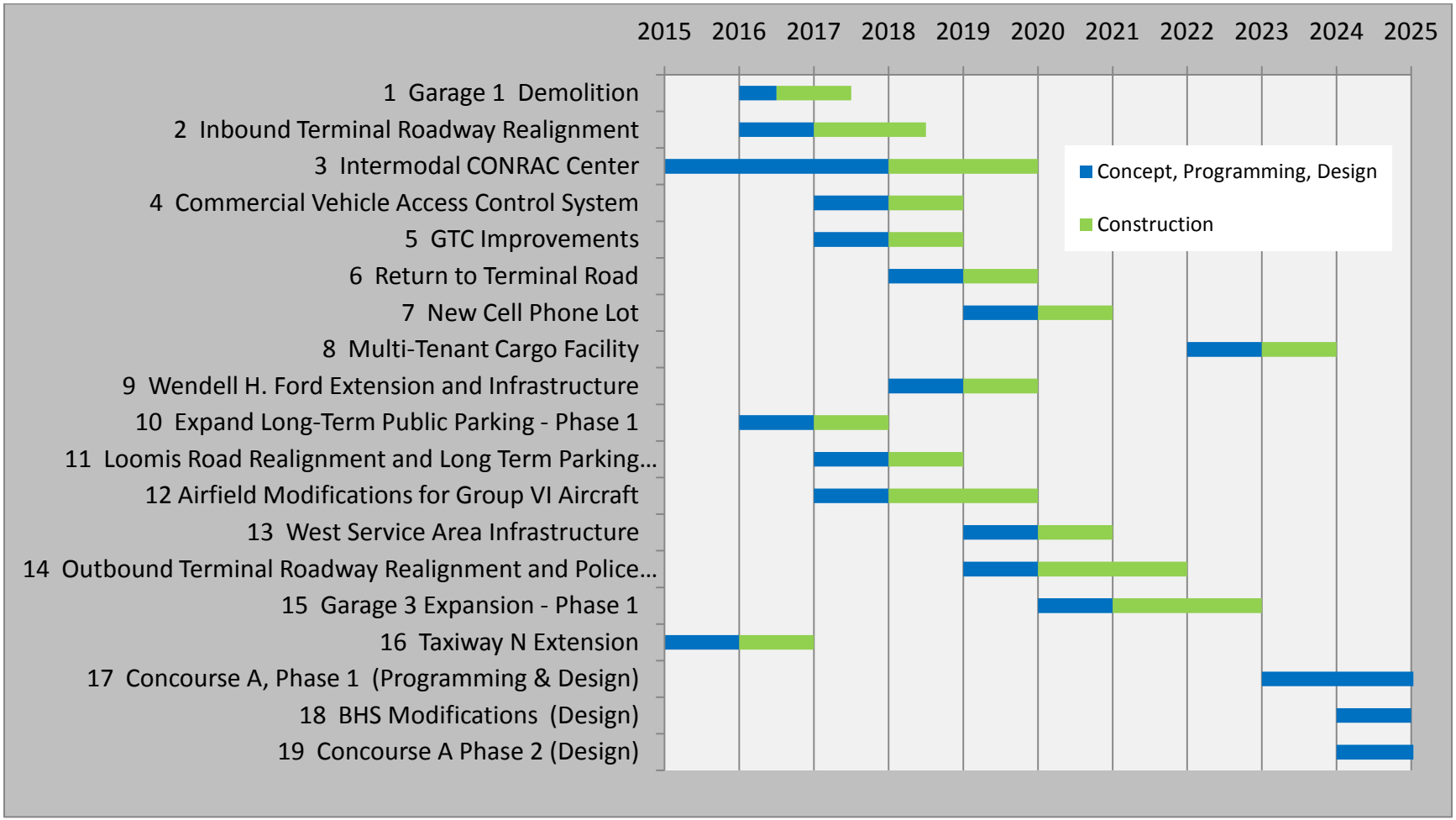
Long-Term Capital projects with costs are presented in Table 6 - 3. Sequencing and implementation timing is depicted in Figure 6 - 5.

Table 6 - 1: Near-Term Capital Projects and Costs (2016 – 2025)

Project ID	Project	Cost (Millions)
1	Garage 1 Demolition	$5.2
2	Inbound Terminal Roadway Alignment	$14.0
3	Intermodal CONRAC Center	$154.8
4	Commercial Vehicle Access Control System	$0.3
5	GTC Improvements	$1.7
6	Return to Terminal Road	$0.8
7	New Cell Phone Lot	$2.0
8	Multi-Tenant Cargo Facility	$11.5
9	Wendell H. Ford Extension and Infrastructure	$9.8
10	Expand Long-Term Public Parking – Phase 1	$3.7
11	Loomis Road Realignment and Long-Term Parking Expansion	$12.1
12	Airfield Modifications for Group VI Aircraft	$50.0
13	West Service Area Infrastructure	$7.5
14	Outbound Terminal Roadway Realignment and Police Building Parking Modifications	$19.4
15	Garage 3 Expansion – Phase 1	$102.7
16	Taxiway N Extension (Design and Construction)	$0.8
17	Concourse A Replacement – Phase 1 (Programming & Design)	$32.9
18	BHS Modifications (Design)	$1.7
19	Concourse A – Phase 2 (Design)	$19.2
TOTAL Near-Term Capital Projects (2012 dollars)		**$369.8**

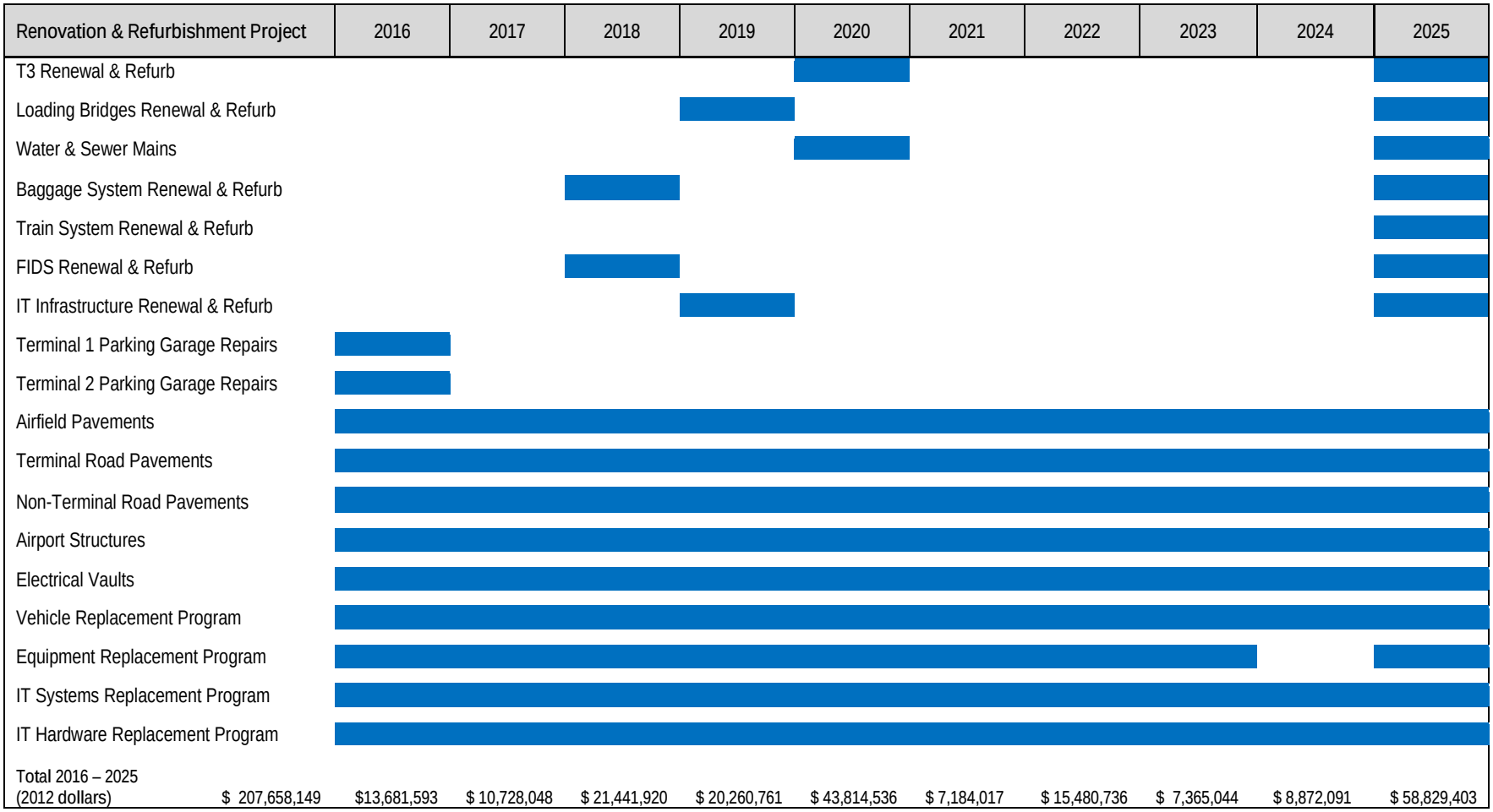
Source: Jacobs Engineering Inc, November 2012

Figure 6 - 4: Near-Term Capital Project Sequencing and Implementation Schedule (2016 - 2025)



Source: Jacobs Engineering Inc, November 2012

Table 6 - 2: Renovation and Renewal Projects (2016 – 2025)



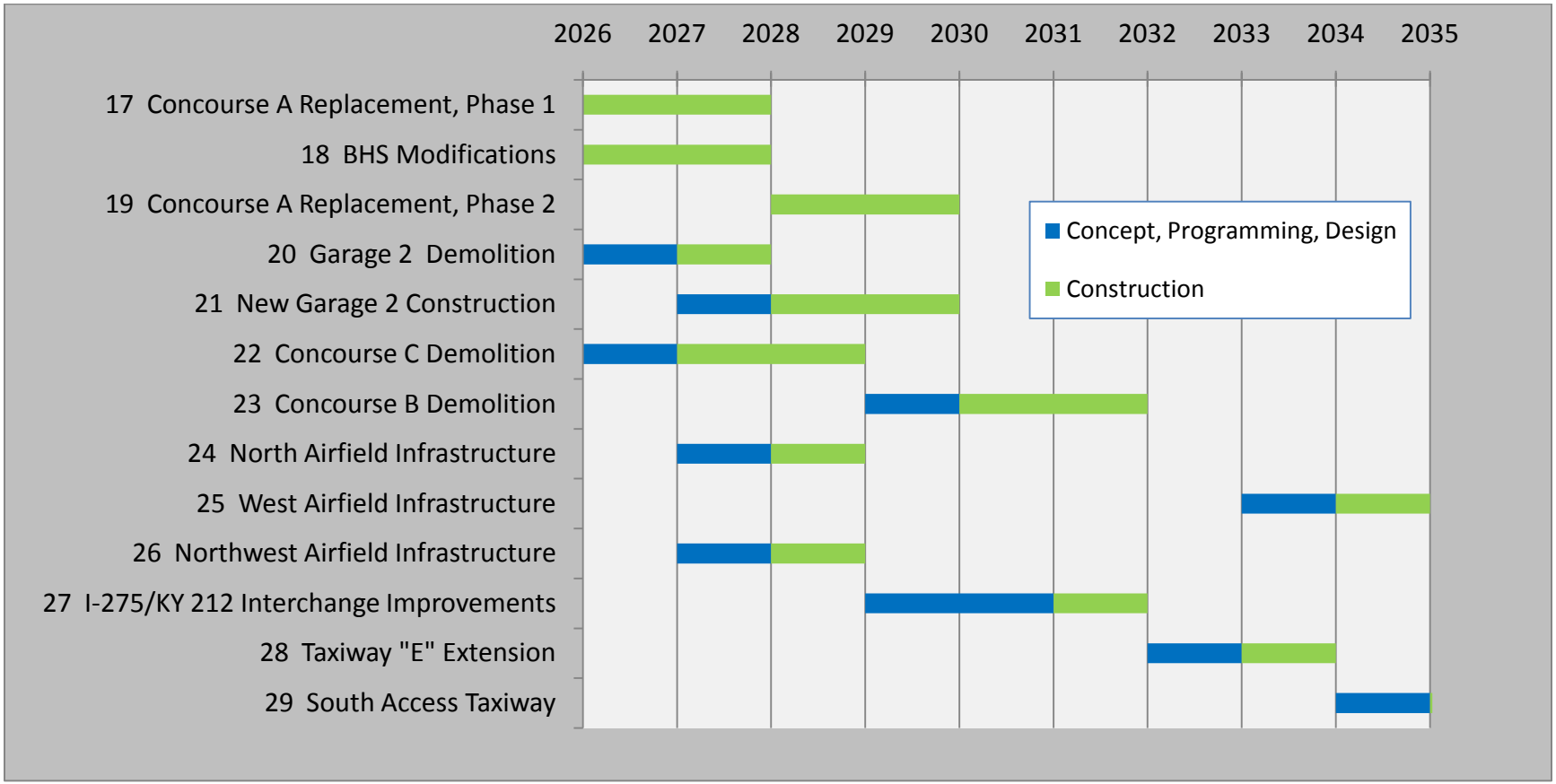
Source: Kenton County Airport Board, Jacobs Engineering, November 2012

Table 6 - 3: Long-Term Capital Projects (2026 – 2035)

Project ID	Project	Cost (Millions)
17	Concourse A Replacement – Phase 1 (Construction and Demo)	$358.5
18	BHS Modifications (Construction)	$19.0
19	Concourse A Replacement – Phase 2 (Construction)	$219.4
20	Garage 2 Demolition	$15.1
21	Garage 2 Construction	$85.8
22	Concourse C Demolition	$19.8
23	Concourse B Demolition	$61.0
24	North Airfield Infrastructure	$0.9
25	West Airfield Infrastructure	$2.2
26	Northwest Airfield Infrastructure	$0.3
27	I-275/KY 212 Interchange Improvements	$0.8
28	Taxiway “E” Extension	$11.4
29	South Access Taxiway	$11.2
TOTAL Long-Term Capital Projects (2012 dollars)		**$814.9**

Source: Jacobs Engineering Inc, November 2012

Figure 6 - 5: Long-Term Capital Project Sequencing and Implementation Schedule (2026 – 2035)



Source: Jacobs Engineering Inc, November 2012

6.3.1. ENVIRONMENTAL CONSIDERATIONS

Every project will require some level of environmental review and an appropriate budget was included in each cost for those reviews. Many projects will qualify under the Categorical Exclusion (CatEx) types of projects because they will have minimal impacts.

However, some of the projects may require an Environmental Assessment (EA). EAs address all of the impact categories identified in FAA Order 1050.1E and the Environmental Desk Reference for Airport Actions in greater detail, quantifying potential impacts and documenting their significance. The near-term projects include a wide variety of work in various parts of the airport. Of consideration is the cumulative effect of these projects. Therefore, rather than evaluate each project separately, a logical grouping of projects should be assessed together to determine impacts. Environmental approval is good for a limited period of time without reassessment. Generally work should begin within five years of the date of approval.

The FAA should be consulted regarding groupings of projects for environmental review, as they can provide valuable insights and guidance.

6.4. FINANCIAL PLAN

This section describes the Financial Plan prepared for the Master Plan Update. Jacobs Engineering Group commissioned LeighFisher to prepare the Financial Plan, with a purpose to determine the financial feasibility of the Board's overall near-term development program.

The initial development year for the Master Plan Study was selected to be 2016, with a 20-year planning horizon through 2035. The Financial Plan specifically considers the effects of the MPU Recommended Development Plan PAL 3 (2016-2025) on Board operations. The Financial Plan is presented for the time period 2016 to 2025, inclusive. In general, the analysis presented herein indicates that funding the Recommended Development Plan PAL 3 is feasible subject to the assumptions provided herein. The only demand driven projects included in the Recommended Development Plan PAL 3 relate to "close in" public parking. The Board could consider alternative pricing or other demand management tools as alternatives to manage the utilization and demand for parking spaces. In particular the Board has other remote/long-term parking options available that could accommodate demand.

Other projects in the Recommended Development Plan are not required to accommodate demand during the 2016-2025 timeframe. Therefore the Board has the flexibility to adjust the timing of all projects in the Recommended Development Plan, and to develop alternative financing plans based upon specific circumstances at the time, which would allow similar alternative development plans to progress under various changed assumptions.

The largest project included in the PAL 3 time period is the Intermodal CONRAC Center, and related projects. This project is not demand driven. The Intermodal CONRAC and related projects are separately described and presented in the Financial Plan due to the anticipated contribution of Customer Facility Charge (CFC) revenues to various projects.

6.4.1. PROJECTS ANALYZED

The Financial Plan was developed using information and assumptions that provide a reasonable basis for analysis at a master plan-appropriate level of detail. Some of the assumptions may

not be realized, and unanticipated events and circumstances may occur. Therefore, actual results may vary from those projected, and such variations could be material.

The Financial Plan is not intended to be used to support the sale of bonds or to obtain any other forms of financing. More detailed cost estimates and financial analysis will be required if and when the Board decides to pursue the sale of bonds or other forms of financing. Some projects included in the Recommended Development Plan may be postponed or eliminated if forecast aviation demand is not achieved, construction costs rise significantly, or if projected funding is not available. Similarly, projects may be undertaken earlier than indicated if demand or other considerations require earlier implementation and funding is available.

Capital projects included in the near-term development program, and their treatment in the Financial Plan, are described below. In total, the Near-Term Projects in the Recommended Development Plan (Near-Term Projects) are estimated to cost approximately $450.3 million over the 2016-2025 planning period. Over the same time period, the Renovation and Renewal projects cost approximately $207.7 million. Cost estimates were provided by various sources including: (1) KCAB internal plans, (2) Jacobs Engineering, and (3) various cost estimators including other studies commissioned by KCAB. Generally speaking, all projects include, or were adjusted to include, contractor's markup for escalation, construction contingencies, and design evolution; and an allowance for owner soft costs for project management, planning, and design. The estimates presented in this chapter were prepared in current 2012 dollars. The cost estimates evaluated in the Financial Plan were not adjusted to include inflationary increases to the anticipated year of project implementation since contingencies were included in each estimate for inflation or other cost increases.

Baseline Projects. The Board has several ongoing or planned prerequisite projects that occur prior to the start of the MPU planning period in 2016, as described above. Major Baseline Projects that are pre-requisite projects to the MPU Recommended Development Plan include:

B-1. Mural Removal,

B-2. Cable Identification and Reroute,

B-3. KCAB Staff Relocation,

B-4. Terminal 1 Demolition,

B-5. Terminal 2 and Terminal 2 Bag Building Demolition.

Any delay in the completion of these projects could impact or change the timing of the recommended development plan. These Baseline Projects will be depicted on the Airport Layout Plan (ALP), and their projected costs are accounted for in the Financial Plan using funding assumptions provided by the Board. For the purposes of this analysis, Baseline Projects are assumed to be complete and funded before 2016, though funding is not dependent upon future revenue collections or bond proceeds. The Board has not committed to funding or constructing the Baseline Projects.

Renovation and Renewal Projects. The Board developed cost and funding assumptions for a reserve for projects that are not demand driven. Such Renovation and Renewal Projects are related to the ongoing capital maintenance of existing facilities (e.g., terminal renewal and replacement, airfield pavement maintenance, repairs to loading bridges, IT systems, and various equipment replacements). In developing the assumptions for Renovation and Renewal

projects, the Board reviewed historical capital spending, the existing condition of facilities, and available studies evaluating the condition of facilities. The cost and funding of the Renovation and Renewal projects are included in the Financial Plan.

MPU Recommended Development Near-Term Projects – PAL 3. Projects contained in PAL 3 of the MPU Recommended Development Plan (2016-2025) are included and presented in the Financial Plan and analysis using funding assumptions provided by the Board. The timing for implementation may change if the Baseline Projects are not complete as scheduled, or if activity levels in the Multi-Carrier scenario are not realized when forecasted. The phasing of projects can be adjusted to correlate to demand.

The largest project included in this group is the Intermodal CONRAC Center, and related projects which are separately described and presented in the Financial Plan due to the anticipated contribution of Customer Facility Charge (CFC) revenues to various projects.

MPU Recommended Development Long-Term Projects – PAL 4+. Projects in 2026 and beyond were not included in the Financial Plan analysis because of uncertainties regarding realization of demand levels, actual implementation dates, future costs, and other considerations.

6.4.2. TRAFFIC FORECAST AND AVIATION ACTIVITY ASSUMPTIONS

Air traffic and PALs. The air traffic forecast described in Chapter 3, Forecast, and Planning Activity Levels (PALs) described in Chapter 4, Requirements, provided a framework for the implementation of the Recommended Development Plan. The Multi-Carrier air traffic forecast was utilized to determine the PALs and for forecasts contained in the Financial Plan, and in particular, the forecast of non-airline revenues.

6.4.3. FUNDING SOURCES

The following sources of funding were considered for the Financial Plan:

Passenger Facility Charge. The authority for airport operators to impose a passenger facility charge (PFC) was granted by Congress in the Aviation Safety and Expansion Act of 1990 and the Wendell H. Ford Aviation Investment and Reform Act of 2000. An airport must apply to the Federal Aviation Administration (FAA) for the authority to impose a PFC and for the authority to use the PFC Revenues collected for specific FAA-approved projects. The Board currently collects a PFC at a level of $3.00 per eligible enplaned passenger, but will increase the level to $4.50 beginning on January 1, 2013. For the purposes of this Financial Plan and analysis, it was assumed that the Board would continue to collect a PFC at a level of $4.50 per eligible enplaned passenger and apply those revenues toward eligible projects contained in the Near-Term Capital projects or Renovation and Renewal projects.

Federal Airport Improvement Program. Federal grants in-aid under the Airport Improvement Program (AIP) can be used to fund most Airport improvements, particularly airfield capacity enhancement projects. There are three types of federal AIP grants:

1. AIP passenger entitlement grants are annual amounts calculated based on the number of enplaned passengers and a legislated per passenger formula.

2. AIP cargo entitlement grants are similar grants calculated based on the landed weight of all-cargo aircraft and each airport's proportion of landed weight to the total cargo landed weight at all qualifying airports.
3. AIP discretionary grants are awarded at the discretion of the FAA's based on its determination of priorities for projects at the Airport in relation to funding priorities for the national airport system.

For federal fiscal year (FFY) 2012, ending September 30, 2012, the Board was eligible to receive approximately $3.5 million in AIP passenger entitlement grants and $2.0 million in AIP cargo entitlement grants. Subject to certain limitations, apportioned funds, if unspent from previous years, can be carried over in future years. AIP passenger entitlement grants are reduced for certain airports that impose a PFC. At the current $3.00 PFC level, the Board's AIP receipts are reduced 50%, but when the PFC level is raised to $4.50 the receipts will be reduced 75%. The Financial Plan assumes AIP will continue to be appropriated at the federal level, KCAB will continue to receive AIP passenger and cargo entitlements through the program at or above historical levels in accordance with the prescribed formulas, and KCAB will pursue and compete for discretionary funding where appropriate.

State Grants. The Kentucky Revised Statutes authorize state financial assistance by grant or loan for the development of airports. The Board has from time to time received grant funds from the Commonwealth of Kentucky. However, these amounts have historically been very limited, with no receipts in recent years. Therefore the Financial Plan does not anticipate any receipt of State Grants.

Customer Facility Charge. Revenues from a customer facility charge (CFC) are derived by the imposition of charges on rental car customers and provide funding to eligible projects. Pursuant to an Ordinance passed by the Board, the collection of CFCs began in 2006. Currently, a CFC is levied at a rate of $3.75 per rental car transaction day. Per the Ordinance, CFCs may be used for costs related to planning, constructing, or operating and maintaining Consolidated Transportation Facilities. As it relates to construction, CFCs may be pledged as security for "debt service and/or coverage for bonds…issued by or on behalf of the Board…and to create and maintain reasonable reserves in relation to such facilities." The Board collected $4.1 million in CFCs in 2011 and as of September 30, 2012 had a balance of $23.5 million in the CFC Fund.

The largest project included in the PAL 3 time period is the Intermodal CONRAC Center, and related projects, which the Board plans to fund primarily from CFCs.

Internal KCAB Funds (including GARBs). The Board retains certain defined cash flows under the existing Airline Agreement. The Agreement was entered into in 1974 as part of an Airport expansion from a single terminal facility to its current three-terminal configuration. The current Agreement utilizes an airport-"residual" rate methodology. Under the Agreement, the Signatory Airlines have the right to review, but not approve, the annual operations and maintenance (O&M) budget; and approve future capital improvements and issuances of Airport Revenue Bonds (Bonds) subject to a Majority in Interest (MII) vote (exclusive of improvements paid from the Airport Surplus Account). The Agreement expires December 31, 2015. As demonstrated in this analysis, under alternative future rate-setting methodologies the Board is able to fund the Near-Term Capital projects and Renovation and Renewal projects. This could

be accomplished either by utilizing internal cash on a pay-as-you-go basis or through the issuance of General Airport Revenue Bonds (GARBs).

Other and Third-Party Funding. Other funding may include receipts from other governmental or private entities such as "third-party" funding. The Financial Plan assumes the Board would develop nearly all of the projects identified in the Recommended Development Plan. The only exceptions are (1) an assumed contribution from a 3rd party for Multi-Tenant Cargo Facility, and (2) an assumed State, Federal, or 3rd party contribution for Wendell H. Ford Reconstruction / Realignment. The Board has determined that these projects may not move forward as currently planned if other funding is not identified (i.e., the timing, cost, and scope could be revised).

The amount of funding available from each of the above sources and the application of available funding to future projects is described in the following sections.

6.4.4. APPLICATION OF FUNDING SOURCES

This section describes the application of funding sources to the Near-Term Capital projects and Renovation and Renewal projects. Since certain sources of funds, such as PFC revenues, AIP grants and CFC revenues, have restrictions on how they can be used, aligning the source of capital funds with allowable and optimal uses is essential for maximizing financial capacity. In general, specific funding sources for projects were determined considering the following:

1. The Baseline Projects (completed prior to 2016) were reviewed to confirm that existing funding was accounted for and that the commitments to fund Baseline Projects do not conflict with the funding assumptions for the Master Plan Projects.
2. The Master Plan Projects and the Renovation and Renewal projects were reviewed to consider and match each funding source to the best use in a given year, taking into consideration debt coverage requirements, fund balance requirements, and future funding needs.

Table 6 - 4 presents the estimated funding sources for projects included in the Financial Plan. Estimated project costs total $657.9 million consisting of $450.3 million in costs for the Near-Term Capital projects (68.4%) and $207.7 million in costs for the Renovation and Renewal projects (31.6%).

Table 6 - 5 and Table 6 - 6 present the sources and uses of funds by year through 2025 for the Renovation and Renewal projects and the Near-Term Capital projects, respectively. The amount of funding available from the various funding sources and the application of that funding to specific projects is summarized in the following sections.

Table 6 - 4: Capital Projects

Description		Cost	Funding
Renovation and Renewal Projects (2016-2025):			
T3 Renewal & Refurb	$	48,848,717	PFCs / KCAB
Loading Bridges Renewal & Refurb		23,940,000	PFCs / KCAB
Water & Sewer Mains		5,586,000	KCAB
Bagagge System Renewal & Refurb		20,000,000	PFCs / KCAB
Train System Renewal & Refurb		2,660,000	PFCs / KCAB
FIDS Renewal & Refurb		3,990,000	PFCs / KCAB
IT Infrastructure Renewal & Refurb		3,990,000	KCAB
Terminal 1 Parking Garage Repairs		500,000	KCAB
Terminal 2 Parking Garage Repairs		800,000	KCAB
Airfield Pavements		45,000,000	AIP / PFCs / KCAB
Terminal Road Pavements		1,500,000	KCAB
Non-Terminal Road Pavements		2,200,000	KCAB
Airport Structures		1,500,000	KCAB
Electrical Vaults		4,000,000	PFCs / KCAB
Vehicle Replacement Program		6,107,540	KCAB
Equipment Replacement Program		10,435,892	KCAB
IT Systems Replacement Program		24,800,000	KCAB
IT Hardware Replacement Program		1,800,000	KCAB
Subtotal Renewal and Replacement Projects	**$**	**207,658,149**	
Near Term Capital Projects (2016-2025):			
Garage 1 Demolition	$	5,240,027	CFCs
Inbound Terminal Roadway Realignment		14,037,198	CFCs
Intermodal CONRAC Center		154,750,446	CFCs / KCAB
Commercial Vehicle Access Control System		330,395	KCAB
GTC Improvements		1,712,133	KCAB
Return to Terminal Road		780,598	KCAB
New Cell Phone Lot		2,039,484	KCAB
Multi-Tenant Cargo Facility		11,511,818	Other
Wendell H. Ford Reconstruction/Realignment		9,779,970	Other
Expand Long-Term Public Parking - Phase 1		3,664,228	KCAB
Loomis Road Realignment and Long Term Parking Expansion		12,120,162	KCAB
Airfield Modifications for Group VI Aircraft		50,000,000	AIP / PFCs / KCAB
West Service Area Infrastructure		7,508,717	KCAB
Outbound Terminal Roadway Realignment and Police Building Parking Modifications		19,404,254	KCAB
Garage 3 Expansion - Phase 1		102,725,955	KCAB
Taxiway N Extension		793,447	AIP / PFCs
Concourse A Replacement, Phase 1 *[a]*		32,912,835	PFCs / KCAB
BHS Modifications *[a]*		1,720,290	PFCs / KCAB
Concourse A Replacement, Phase 2 *[a]*		19,225,010	PFCs / KCAB
Subtotal Recommended Development Plan	**$**	**450,256,968**	
Total Evaluated in Financial Plan (2016 - 2025)	**$**	**657,915,117**	

Note: *[a]* Noted projects overlap groupings, with design and preliminary work beginning at the end of the Near Term Projects time period, but not beginning construction until after 2025. Only the preliminary project costs are reported.

Source: Jacobs Engineering Inc, November 2012

Table 6 - 5: Capital Project Funding Sources – Renovation and Renewal Projects

Description	Total	Funding Source	
		AIP/PFCs	KCAB
Renovation and Renewal Projects			
T3 Renewal & Refurb	$ 48,848,717	$ 34,194,102	$ 14,654,615
Loading Bridges Renewal & Refurb	23,940,000	23,940,000	-
Water & Sewer Mains	5,586,000	-	5,586,000
Bagagge System Renewal & Refurb	20,000,000	20,000,000	-
Train System Renewal & Refurb	2,660,000	2,660,000	-
FIDS Renewal & Refurb	3,990,000	3,990,000	-
IT Infrastructure Renewal & Refurb	3,990,000	-	3,990,000
Terminal 1 Parking Garage Repairs	500,000	-	500,000
Terminal 2 Parking Garage Repairs	800,000	-	800,000
Airfield Pavements	45,000,000	45,000,000	-
Terminal Road Pavements	1,500,000	-	1,500,000
Non-Terminal Road Pavements	2,200,000	-	2,200,000
Airport Structures	1,500,000	-	1,500,000
Electrical Vaults	4,000,000	3,000,000	1,000,000
Vehicle Replacement Program	6,107,540	-	6,107,540
Equipment Replacement Program	10,435,892	-	10,435,892
IT Systems Replacement Program	24,800,000	-	24,800,000
IT Hardware Replacement Program	1,800,000	-	1,800,000
Total Renovation and Renewal Projects	**$ 207,658,149**	**$ 132,784,102**	**$ 74,874,047**
Funding by Source and Year			
2016	$ 13,681,593	$ 4,800,000	$ 8,881,593
2017	10,728,048	4,800,000	5,928,048
2018	21,441,920	16,795,000	4,646,920
2019	20,260,761	16,770,000	3,490,761
2020	43,814,536	25,833,716	17,980,820
2021	7,184,017	4,800,000	2,384,017
2022	15,480,736	4,800,000	10,680,736
2023	7,365,044	4,800,000	2,565,044
2024	8,872,091	4,800,000	4,072,091
2025	58,829,403	44,585,386	14,244,017
Total Renovation and Renewal Projects	**$ 207,658,149**	**$ 132,784,102**	**$ 74,874,047**

Source: Jacobs Engineering Inc and LeighFisher analysis, November 2012

Table 6 - 6: Capital Project Funding Sources – Near-Term Capital Projects

Description	Total	Funding Source					
		AIP/PFCs	CFCs			Other	KCAB
			Paygo	Bonds	Subtotal		
Near Term Capital Projects							
Garage 1 Demolition	$ 5,240,027	$ -	$ 5,240,027	$ -	$ 5,240,027	$ -	$ -
Inbound Terminal Roadway Realignment	14,037,198	-	14,037,198	-	14,037,198	-	-
Intermodal CONRAC Center	154,750,446	-	42,805,331	69,484,697	112,290,028	-	42,460,419
Commercial Vehicle Access Control System	330,395	-	-	-	-	-	330,395
GTC Improvements	1,712,133	-	-	-	-	-	1,712,133
Return to Terminal Road	780,598	-	-	-	-	-	780,598
New Cell Phone Lot	2,039,484	-	-	-	-	-	2,039,484
Multi-Tenant Cargo Facility	11,511,818	-	-	-	-	11,511,818	-
Wendell H. Ford Reconstruction/Realignment	9,779,970	-	-	-	-	9,779,970	-
Expand Long-Term Public Parking - Phase 1	3,664,228	-	-	-	-	-	3,664,228
Loomis Road Realignment and Long Term Parking Expansion	12,120,162	-	-	-	-	-	12,120,162
Airfield Modifications for Group VI Aircraft	50,000,000	27,500,000	-	-	-	-	22,500,000
West Service Area Infrastructure	7,508,717	-	-	-	-	-	7,508,717
Outbound Terminal Roadway Realignment and Police Building Parking Modifications	19,404,254	19,404,254	-	-	-	-	-
Garage 3 Expansion - Phase 1	102,725,955	-	-	-	-	-	102,725,955
Taxiway N Extension	793,447	793,447	-	-	-	-	-
Concourse A Replacement, Phase 1 *[a]*	32,912,835	17,206,418	-	-	-	-	15,706,418
BHS Modifications *[a]*	1,720,290	1,720,290	-	-	-	-	-
Concourse A Replacement, Phase 2 *[a]*	19,225,010	9,612,505	-	-	-	-	9,612,505
Total Near Term Capital Projects	**$ 450,256,968**	**$ 76,236,914**	**$ 62,082,556**	**$ 69,484,697**	**$ 131,567,253**	**$ 21,291,788**	**$ 221,161,013**
Funding by Source and Year							
2016	$ 20,815,320	$ 793,447	$ 19,741,154	$ -	$ 19,741,154	$ -	$ 280,719
2017	22,357,923	5,000,000	12,873,562	-	12,873,562	-	4,484,361
2018	200,298,756	22,500,000	29,467,840	69,484,697	98,952,537	765,148	78,081,071
2019	12,102,462	1,589,510	-	-	-	9,014,822	1,498,129
2020	35,001,454	17,814,744	-	-	-	-	17,186,710
2021	-	-	-	-	-	-	-
2022	95,199,289	-	-	-	-	888,189	94,311,100
2023	12,113,629	1,500,000	-	-	-	10,613,629	-
2024	52,368,136	27,039,213	-	-	-	10,000	25,318,923
2025	-	-	-	-	-	-	-
Total Near Term Capital Projects	**$ 450,256,968**	**$ 76,236,914**	**$ 62,082,556**	**$ 69,484,697**	**$ 131,567,253**	**$ 21,291,788**	**$ 221,161,013**

Note: *[a]* Noted projects overlap groupings, with design and preliminary work beginning at the end of the Near Term Projects time period, but not beginning construction until after 2025. Only the preliminary project costs are reported.

Source: Jacobs Engineering Inc and LeighFisher analysis, November 2012

6.4.5. CONSIDERATION OF COSTS AND REVENUES

The following summarizes costs and revenues associated with implementation of the Near-Term Capital projects and Renovation and Renewal projects.

Debt Service Requirements. The debt service requirement represents the scheduled annual principal and interest payments on the currently outstanding bonds and the additional bonds assumed to be issued by the Board to finance the projects. Requirements for debt service for the additional bonds are based on the following assumptions (the actual structure and sizing of future bond issues will depend on municipal market conditions at the time of issuance):

1. The annual debt service requirement on future bonds was calculated assuming:
    a. a bond term of 30 years, amortized over 28 years (assuming the first two years of capitalized interest)
    b. level annual debt service for each issue during the amortization period
    c. a coupon rate of 6.0%, and
    d. a financing and issuance markup of 25% of proceeds (includes any deposit to debt service reserve and capitalized interest funds).
2. The annual debt service requirement reflected in Table 6 - 8 excludes any CFC-and PFC-related debt and PFC and CFC revenues, which are assumed to be deposited annually to separate bond funds to pay interest and principal on the respective bonds. The annual debt service requirement for PFC bonds and PFC cash flow are shown in Table 6 - 9. Likewise, CFC bonds and CFC cash flow are evaluated separately in the section. Funding for the Intermodal CONRAC Center and CFC Cash Flow and in Table 6 - 11.

Currently, the only existing bond series that will be outstanding beyond December 2015 is the Series 2003B Bonds and the Board has the option to redeem these bonds prior to their maturity at cost beginning in 2013. As a result of additional bonds assumed, the annual debt service requirement increases during the planning period. The Financial Plan projects that KCAB would potentially generate annual cash flow from operations sufficient to fund a substantial portion of planned projects. As shown in Table 6 - 8, only three projects are shown requiring GARBs to be issued: the Parking-related portion of the Intermodal CONRAC Center and Airfield Modifications for Group VI Aircraft in 2018, and the Garage 3 Expansion – Phase 1 in 2022.

Specifically, the following bond issuances were assumed for the funding of the Near-Term Capital projects and Renovation and Renewal projects:

2018 GARBs	
Projects	Intermodal CONRAC Center (Construction of parking portion)
	Airfield Modifications for Group VI Aircraft
Proceeds	$65.0 million
Debt service	$6.1 million annually, beginning 2020
2018 CFC Bonds	
Project	Intermodal CONRAC Center (Construction of rental car portion)
Proceeds	$69.5 million
Debt service	$6.5 million annually, beginning 2020
2018 PFC Bonds	
Project	Various PFC projects, as needed
Proceeds	$50.0 million
Debt service	$4.7 million annually, beginning 2020
2022 GARBs	
Project	Garage 3 Expansion – Phase 1
Proceeds	$94.4 million
Debt service	$8.9 million annually, beginning 2024

Source: Jacobs Engineering and LeighFisher analysis, November 2012

Table 6 - 7: Summary of Financial Analysis

		Forecast									
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Project expenditures	Total										
Renovation and Renewal projects	$207,658,149	$ 13,681,593	$ 10,728,048	$ 21,441,920	$ 20,260,761	$ 43,814,536	$ 7,184,017	$ 15,480,736	$ 7,365,044	$ 8,872,091	$ 58,829,403
Near Term Capital projects	450,256,968	20,815,320	22,357,923	200,298,756	12,102,462	35,001,454	-	95,199,289	12,113,629	52,368,136	-
	$657,915,117	$ 34,496,913	$ 33,085,971	$ 221,740,676	$ 32,363,223	$ 78,815,990	$ 7,184,017	$ 110,680,025	$ 19,478,673	$ 61,240,227	$ 58,829,403
Ending balances *[a]*											
KCAB discretionary cash		$ 26,974,430	$ 36,874,245	$ 41,798,183	$ 61,674,182	$ 45,890,407	$ 65,237,386	$ 78,832,111	$ 103,022,639	$ 90,875,046	$ 96,659,161
Combined AIP/PFCs		10,533,776	18,591,329	47,657,881	48,025,143	18,690,429	28,485,354	38,559,336	47,420,524	31,033,413	2,194,635
CFCs		32,190,131	29,292,445	10,000,000	20,310,727	21,658,587	23,116,919	24,687,242	26,371,094	28,170,036	30,086,546

Note: *[a]* Ending balances incorporate (when applicable) project expenditures, bond proceeds, revenues, and expenses. Refer to the respective tables for detail.

Source: Jacobs Engineering Inc and LeighFisher analysis, November 2012

Table 6 - 8: KCAB Cash Flow

		Forecast									
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Net revenues											
Revenues (excluding CFCs)		$ 114,638,309	$ 125,329,787	$ 129,244,756	$ 132,520,979	$ 135,913,715	$ 139,337,648	$ 142,880,402	$ 146,547,204	$ 150,343,545	$ 154,288,591
Expenses											
Baseline		$ 98,501,567	$ 105,017,563	$ 106,592,827	$ 107,656,090	$ 108,729,959	$ 109,790,077	$ 110,860,530	$ 111,941,420	$ 113,032,849	$ 114,143,397
Incremental - Intermodal CONRAC Center (Parking portion)		-	-	-	-	1,700,000	1,716,575	1,733,312	1,750,211	1,767,276	1,784,639
Incremental - Garage 3 Expansion		-	-	-	-	-	-	-	-	3,300,000	3,332,423
Subtotal Expenses		$ 98,501,567	$ 105,017,563	$ 106,592,827	$ 107,656,090	$ 110,429,959	$ 111,506,652	$ 112,593,841	$ 113,691,631	$ 118,100,125	$ 119,260,459
Net revenues		$ 16,136,742	$ 20,312,224	$ 22,651,929	$ 24,864,889	$ 25,483,755	$ 27,830,996	$ 30,286,561	$ 32,855,572	$ 32,243,421	$ 35,028,133
KCAB discretionary cash											
Beginning balance		$ 20,000,000	$ 26,974,430	$ 36,874,245	$ 41,798,183	$ 61,674,182	$ 45,890,407	$ 65,237,386	$ 78,832,111	$ 103,022,639	$ 90,875,046
Add:											
Net revenues		16,136,742	20,312,224	22,651,929	24,864,889	25,483,755	27,830,996	30,286,561	32,855,572	32,243,421	35,028,133
Bond proceeds - Intermodal CONRAC Center (Parking Construction)		-	-	42,500,000	-	-	-	-	-	-	-
Bond proceeds - Airfield Modifications for Group VI Aircraft		-	-	22,500,000	-	-	-	-	-	-	-
Bond proceeds - Garage 3 Expansion (Construction)		-	-	-	-	-	-	94,400,000	-	-	-
Less:	Total										
KCAB expenditures - R&R projects	$ 74,874,047	8,881,593	5,928,048	4,646,920	3,490,761	17,980,820	2,384,017	10,680,736	2,565,044	4,072,091	14,244,017
KCAB expenditures - Near Term Cap. projects	221,161,013	280,719	4,484,361	78,081,071	1,498,129	17,186,710	-	94,311,100	-	25,318,923	-
Debt service - Intermodal CONRAC Center (Parking portion)		-	-	-	-	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
Debt service - Airfield Modifications for Group VI Aircraft		-	-	-	-	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000
Debt service - Garage 3 Expansion		-	-	-	-	-	-	-	-	8,900,000	8,900,000
Ending balance		$ 26,974,430	$ 36,874,245	$ 41,798,183	$ 61,674,182	$ 45,890,407	$ 65,237,386	$ 78,832,111	$ 103,022,639	$ 90,875,046	$ 96,659,161

Source: Jacobs Engineering Inc and LeighFisher analysis, November 2012.

Table 6 - 9: Airport Improvement Program (AIP) and Passenger Facility Charge (PFC) Cash Flow

		Forecast									
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AIP Revenues											
Entitlement - passenger		$ 1,645,332	$ 1,819,855	$ 1,939,343	$ 2,043,584	$ 2,069,305	$ 2,086,752	$ 2,104,432	$ 2,121,942	$ 2,139,679	$ 2,157,648
Entitlement - cargo		2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
AIP revenues		$ 3,645,332	$ 3,819,855	$ 3,939,343	$ 4,043,584	$ 4,069,305	$ 4,086,752	$ 4,104,432	$ 4,121,942	$ 4,139,679	$ 4,157,648
PFC Revenues											
Enplaned passengers		4,727,373	5,144,335	5,247,222	5,317,010	5,387,726	5,457,766	5,528,717	5,600,591	5,673,398	5,747,720
Eligibility %		85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Net PFC level		$ 4.39	$ 4.39	$ 4.39	$ 4.39	$ 4.39	$ 4.39	$ 4.39	$ 4.39	$ 4.39	$ 4.39
PFC revenues		$ 17,640,193	$ 19,196,086	$ 19,580,008	$ 19,840,422	$ 20,104,300	$ 20,365,655	$ 20,630,409	$ 20,898,604	$ 21,170,286	$ 21,447,617
Combined AIP/PFC balance											
Beginning balance		$ -	$ 10,533,776	$ 18,591,329	$ 47,657,881	$ 48,025,143	$ 18,690,429	$ 28,485,354	$ 38,559,336	$ 47,420,524	$ 31,033,413
Add:											
AIP revenues		3,645,332	3,819,855	3,939,343	4,043,584	4,069,305	4,086,752	4,104,432	4,121,942	4,139,679	4,157,648
PFC revenues		17,640,193	19,196,086	19,580,008	19,840,422	20,104,300	20,365,655	20,630,409	20,898,604	21,170,286	21,447,617
PFC bond proceeds		-	-	50,000,000	-	-	-	-	-	-	-
Less:	Total										
AIP/PFC expenditures - R&R projects	$ 132,784,102	4,800,000	4,800,000	16,795,000	16,770,000	25,833,716	4,800,000	4,800,000	4,800,000	4,800,000	44,585,386
AIP/PFC expenditures - Near Term Cap. projects	76,236,914	793,447	5,000,000	22,500,000	1,589,510	17,814,744	-	-	1,500,000	27,039,213	-
PFC debt service - Existing		5,158,302	5,158,388	5,157,800	5,157,233	5,159,858	5,157,483	5,160,858	5,159,358	5,157,864	5,158,656
PFC debt service - Additional		-	-	-	-	4,700,000	4,700,000	4,700,000	4,700,000	4,700,000	4,700,000
Ending balance		$ 10,533,776	$ 18,591,329	$ 47,657,881	$ 48,025,143	$ 18,690,429	$ 28,485,354	$ 38,559,336	$ 47,420,524	$ 31,033,413	$ 2,194,635

Source: Jacobs Engineering Inc and LeighFisher analysis, November 2012.

Operations and Maintenance Costs. The costs of operations and maintenance were projected by analyzing historical trends in expenses by line item. Operations and maintenance costs were projected using the 2012 budget as a base taking into account management plans, facility development plans, and other assumptions. From this baseline, operations and maintenance costs are assumed to increase at a rate equal to 75% of the change in enplaned passengers.

Incremental operations and maintenance costs are assumed, due to the addition of certain new facilities, as shown in Table 6 - 8 (all incremental costs are escalated from the initial year at the baseline O&M rate):

- Intermodal CONRAC Center (Parking portion), estimated to begin at $1.7 million per year
- Garage 3 Expansion, estimated to begin at $3.3 million per year
- Intermodal CONRAC Center (Rental Car portion), estimated to begin at $2.6 million per year and are funded from CFC revenues.

Future Revenues. Future revenues must be sufficient to provide for payment of the (1) cost of operation and maintenance; (2) debt service requirement on the outstanding bonds and additional bonds; and if applicable (3) other subordinated indebtedness which may include the CFC bonds. KCAB received $91.8 million of revenues in 2011, and budgeted $89.4 million of revenues in 2012 (excluding PFCs and CFCs). By 2016 the revenues are expected to grow to $114.6 million, driven primarily by growth in enplaned passengers, particularly origin and destination (O&D) passengers. Sources of airline and non-airline revenues and key assumptions are summarized below:

Non-airline Revenues. The principal sources of non-airline revenues include parking fees, rental cars, concessions, non-airline rents, and interest on Board fund balances. Non-airline revenues were projected by analyzing the trend in revenue by line item and comparing those revenues to passenger activity. In order to best match historical trends, individual line item revenues were projected by using revenue per passenger. Parking and auto rentals are correlated to the growth rate of O&D passengers, while other non-airline revenues are correlated to changes in enplaned passengers. Additionally, parking revenues were adjusted to reflect anticipated inflationary revenue increases

Airline Revenues. Existing airline revenues are generated primarily through landing fees and terminal rents and through the rate methodology as defined in the current Agreement, which utilizes an airport-"residual" rate methodology. As described earlier, for the purpose of this analysis, it was assumed that under any future rate methodology, the Board would continue to generate internal cash flow sufficient to fund the Near-Term Capital projects and Renovation and Renewal projects, or could otherwise fund projects using General Airport Revenue Bonds (GARBs).

6.4.6. FUNDING FOR THE INTERMODAL CONRAC CENTER AND CFC CASH FLOW

The most significant project in the Master Plan Recommended Development Plan PAL 3 is the Intermodal CONRAC Center. The project is described in the earlier section, Recommended Development Plan. This facility will serve multiple purposes, accommodating both rental car-related activity as well as public parking. As a result, the funding sources for project costs will also reflect these multiple uses. The project costs allocable to rental car activities will be funded

with CFC revenues. Costs associated with parking will be funded with Internal KCAB Funds and GARBs. Projects costs, including the costs of associated enabling projects, are shown in Table 6 - 10.

Two other Master Plan projects will also be funded with CFCs on a pay-as-you-go basis, as they are pre-requisite projects to the Intermodal CONRAC Center. These projects are (1) the Garage 1 Demolition, and (2) the Inbound Terminal Roadway Realignment.

The Financial Plan reflects the issuance of bonds to finance a portion of the construction costs of both aspects of the facility. Project planning and design costs are fully funded on a pay-as-you-go basis. CFC-backed bonds are projected to be issued in an amount of approximately $69.5 million, which combines with $29.5 million of CFC funds on hand to finance the $99.0 million rental car-related portion of construction. Under the debt service requirement assumptions stated earlier, the annual CFC-related debt service requirement is approximately $6.5million, which translates to a maximum leveraging ratio of approximately 62% of CFC revenues at an assumed future CFC rate of $4.75 per transaction day.

The Financial Plan also anticipates the Board issuing GARBs to finance the public parking-related portion of the facility. The construction funded through these bonds constitutes the remaining $42.5 million of project costs. Annual debt service on these bonds will amount to approximately $4.0 million. Incremental O&M expenses related to the parking function are also assumed beginning the same year as noted previously . The parking related debt service and incremental O&M costs are included in Table 6 - 8.

No additional rental car revenues were assumed due to the opening of the Intermodal CONRAC Center. CFC revenues are forecast to increase driven by the combination of (1) a CFC rate increase to $4.75 per transaction day beginning in 2014, and (2) the forecast increase of visitor passengers over the period. It is assumed that the facility incurs incremental O&M expenses related to rental car activities, which are also paid by CFC receipts after debt obligations are paid, as noted previously. Any O&M expenses which could not be covered by CFC receipts could potentially be funded through agreement provisions that would obligate rental car companies to fund any shortfall (i.e. contingent rent). Alternatively the Board could consider increasing the CFC rate or cover any shortfalls through internal KCAB funds.

Table 6 - 10: Intermodal CONRAC Center and Related Projects Costs and Funding

Description	Total	Funding Source			
		CFCs			
		Paygo	Bonds	Subtotal	KCAB
Near Term Capital Projects (enabling construction of Intermodal CONRAC Center)					
Garage 1 Demolition	$ 5,240,027	$ 5,240,027	$ -	$ 5,240,027	$ -
Inbound Terminal Roadway Realignment	14,037,198	14,037,198	-	14,037,198	-
Subtotal Near Term Capital Projects	**$ 19,277,225**	**$ 19,277,225**	**$ -**	**$ 19,277,225**	**$ -**
Intermodal CONRAC Center					
Design - Intermodal CONRAC Center	$ 13,337,491	$ 13,337,491	$ -	$ 13,337,491	$ -
Construction - CONRAC	98,952,537	29,467,840	69,484,697	98,952,537	-
Construction - Parking	42,460,419	-	-	-	42,460,419
Subtotal Intermodal CONRAC Center	**$ 154,750,446**	**$ 42,805,331**	**$ 69,484,697**	**$ 112,290,028**	**$ 42,460,419**
Total Intermodal CONRAC Center and Related Projects	**$ 174,027,671**	**$ 62,082,556**	**$ 69,484,697**	**$ 131,567,253**	**$ 42,460,419**
Funding by Source and Year					
2016	$ 19,741,154	$ 19,741,154	$ -	$ 19,741,154	$ -
2017	12,873,562	12,873,562	-	12,873,562	-
2018	141,412,955	29,467,840	69,484,697	98,952,537	42,460,419
Total Intermodal CONRAC Center and Related Projects	**$ 174,027,671**	**$ 62,082,556**	**$ 69,484,697**	**$ 131,567,253**	**$ 42,460,419**

Source: Jacobs Engineering Inc and LeighFisher analysis, November 2012

Table 6 - 11: Customer Facility Charge (CFC) Cash Flow

	Projected	Forecast												
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
CFC Revenues														
Total enplaned passengers	3,114,791	2,886,226	3,551,327	4,249,420	4,727,373	5,144,335	5,247,222	5,317,010	5,387,726	5,457,766	5,528,717	5,600,591	5,673,398	5,747,720
Visitor enplaned passengers	735,366	735,366	1,018,067	1,262,759	1,404,788	1,528,693	1,559,266	1,580,005	1,601,019	1,621,832	1,642,916	1,664,274	1,685,909	1,707,995
Rental car transactions	289,684	289,684	401,049	497,441	553,391	602,200	614,244	622,414	630,692	638,891	647,197	655,610	664,133	672,833
Average days per transaction	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49
Rental car transaction-days	1,010,277	1,010,277	1,398,665	1,734,834	1,929,959	2,100,185	2,142,188	2,170,679	2,199,549	2,228,144	2,257,109	2,286,452	2,316,176	2,346,518
CFC rate	$ 3.75	$ 3.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75	$ 4.75
CFC revenues	$ 3,788,540	$ 3,788,540	$ 6,643,660	$ 8,240,460	$ 9,167,306	$ 9,975,877	$ 10,175,394	$ 10,310,727	$ 10,447,860	$ 10,583,682	$ 10,721,270	$ 10,860,646	$ 11,001,835	$ 11,145,959
CFC balance														
Beginning balance	$ 20,302,777	24,091,317	27,879,858	34,523,518	42,763,979	32,190,131	29,292,445	10,000,000	20,310,727	21,658,587	23,116,919	24,687,242	26,371,094	28,170,036
Add:														
CFC revenues	3,788,540	3,788,540	6,643,660	8,240,460	9,167,306	9,975,877	10,175,394	10,310,727	10,447,860	10,583,682	10,721,270	10,860,646	11,001,835	11,145,959
Less:														
CFC pay-as-you-go expenditures	-	-	-	-	19,741,154	12,873,562	29,467,840	-	-	-	-	-	-	-
CFC debt service ($69.5M bond proceeds)	-	-	-	-	-	-	-	-	6,500,000	6,500,000	6,500,000	6,500,000	6,500,000	6,500,000
Incremental expenses	-	-	-	-	-	-	-	-	2,600,000	2,625,350	2,650,947	2,676,794	2,702,893	2,729,449
Ending balance	$ 24,091,317	$ 27,879,858	$ 34,523,518	$ 42,763,979	$ 32,190,131	$ 29,292,445	$ 10,000,000	$ 20,310,727	$ 21,658,587	$ 23,116,919	$ 24,687,242	$ 26,371,094	$ 28,170,036	$ 30,086,546

Summary of CFC expenditures	Renovation & Renewal	Near Term Capital	TOTAL
CFC pay-as-you-go	$ -	$ 62,082,556	$ 62,082,556
CFC bonds	-	69,484,697	69,484,697
Total CFC expenditures	$ -	$ 131,567,253	$ 131,567,253

Source: Jacobs Engineering Inc and LeighFisher analysis, November 2012.