

CHAPTER SEVEN

CUMULATIVE IMPACTS

7.1 INTRODUCTION

This chapter provides a discussion of cumulative impacts of actions proposed at Port Columbus International Airport (CMH or Airport) evaluated in this Environmental Impact Statement (EIS), in combination with other related or independent actions in the vicinity of CMH. The analysis of cumulative impacts recognizes that while the impacts of individual actions may be small, when combined with the impacts of past, present, and reasonably foreseeable future actions on populations or resources in and around CMH, the impacts could be potentially significant.

Cumulative impacts are those that can be reasonably expected to occur as a result of implementation of the proposed action, in combination with the impacts from other past, present, and reasonably foreseeable future activities, development, and/or projects that may be connected by geography or time. The known adverse impacts associated with past, present, or reasonably foreseeable future actions were incorporated into the evaluation of the No Action and development alternatives, as described in Chapter Five, *Environmental Consequences*.

7.2 REGULATORY OVERVIEW

The Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) defines cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (See 40 § CFR 1508.7.) Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.¹

Cumulative impacts must be evaluated relative to the direct and indirect effects of the proposed action for each environmental category discussed in Chapter Five, *Environmental Consequences*. As with the environmental consequences discussion, the Existing (2006) Condition serves as the reference point against which potentially significant cumulative impacts are evaluated. Significant cumulative impacts are determined according to the same thresholds of significance used in the evaluation of each environmental category in the environmental consequences discussion.

It can be difficult to determine levels beyond which cumulative impacts significantly degrade a resource. Local, state, and Federal standards for some resources will apply, and goals or objectives from land use management plans and other guiding programs may serve as thresholds. Where numerical thresholds are not available

¹ 40 CFR Part 1500, *Council on Environmental Policy*, Section 1508.7 *Cumulative Impact*.

or cannot be determined, impacts are typically qualified in relative terms of magnitude. The thresholds of significance for each environmental category, where applicable, are defined in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*.

7.3 IDENTIFICATION OF PERTINENT PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

The evaluation of cumulative impacts in this EIS considers the past, present, and reasonably foreseeable future projects or actions undertaken at the Airport by the Columbus Regional Airport Authority (CRAA) or other parties (such as the Federal Aviation Administration (FAA)), as well as notable actions, including development undertaken in the Airport environs. For the purposes of this assessment, the past actions are defined as those that were completed before or during 2007. Present actions are defined as those completed in 2008 and 2009. Foreseeable future actions are defined as those planned to be complete between 2009 and 2018, which is within the planning horizon of this EIS. This section identifies those past, present, and reasonably foreseeable future projects.

7.3.1 PAST PROJECTS

Recent past projects at CMH and at other facilities in the vicinity of CMH that are related to airport operations, or could potentially add incremental impacts to those created by the Sponsor's Proposed Project, are described in this section. The availability of older data often determines how far back past effects may be examined. Certain types of data "may be available for extensive periods in the past," while other data "may be available only for much shorter periods," according to CEQ guidance. Consequently, because the data describing past conditions are usually scarce, the analysis of past impacts is often qualitative.²

7.3.1.1 Addition of Terminal Switchback Ramp

The introduction of Skybus Airlines at CMH required renovation and expansion of existing Concourse B to modify four gates for passenger service. The additional terminal space included ramps to allow passengers to proceed from the upper level security screening area to the lower level hold room, referred to as switchback ramps. The project required renovation of 8,300 square feet of space for Skybus operations, maintenance, ticket office, and a baggage service office. Skybus Airlines began service at CMH on May 22, 2007. These projects were assumed to be completed by 2012 and therefore were included in the 2012 No Action: Alternative A, as well as all of the other development alternatives.

The environmental impacts of this project included temporary construction impacts, such as waste disposal, that occurred during the renovation and expansion. None of the impacts were significant.

² *Considering Cumulative Impacts Under the National Environmental Policy Act*, Council on Environmental Quality, January 1997.

7.3.2 PRESENT PROJECTS

This section includes a discussion of development and improvement plans at CMH and at other facilities in the vicinity of CMH that are currently being proposed, are underway, or that were recently completed.

7.3.2.1 Stelzer Road/International Gateway Interchange³

This project will construct a grade-separated interchange at the intersection of Stelzer Road and International Gateway on the west side of the Airport. It includes the relocation of International Gateway to the north of its current location. The Federal Highway Administration (FHWA), in coordination with the Ohio Department of Transportation, received environmental approval for the project through an environmental review completed in August 2006. These projects were assumed to be completed by 2012 and therefore were included in the 2012 No Action: Alternative A, as well as all of the other development alternatives. Impacts identified for this project are described below.

SURFACE TRANSPORTATION

Three parcels of land were impacted for temporary right-of-way along Stelzer Road and driveway improvements with the modified Stelzer Road alignment. Total amount of temporary right-of-way is 0.127 acres. There will be 7.593 acres of permanent right-of-way taken from two parcels owned by the CRAA. The CRAA will donate this land and it is viewed as part of CRAA's contribution to the project.

WETLANDS

Less than 0.06 acres of wetlands impacted. Wetland 15A (US Army Corps of Engineers ID) is a non-isolated palustrine emergent wetland known as Turkey Run, with an impact area of 0.02 acres; Wetland 15B (Corps ID), also located at Turkey Run has an area of 0.03 acres; and, Wetland 28C (Corps ID), a palustrine emergent wetland known as Mason Run has an impact area of less than 0.01 acre.

CONSTRUCTION

Temporary construction impacts began in 2007 and will continue until the project is complete in 2009. The project will improve traffic flow through the terminal area that will alleviate traffic congestion and allow future terminal development in the midfield area of the Airport. This improvement in the traffic flow will decrease emissions from motor vehicles.

None of the impacts described above were considered significant and, in the case of the wetland impacts, mitigation is currently being completed.

³ *International Gateway Realignment*, Categorical Exclusion Reevaluation Level 4 prepared by DLZ Ohio for the Ohio Department of Transportation, District 6, August 2006.

7.3.2.2 Crossover Taxiway Project

Due to an increase in demand at CMH, the Airport has begun construction of a new crossover taxiway. The taxiway connects the two parallel runways on the western end of the Airport, eliminating the need for aircraft to taxi around to the east side, a distance of almost four miles. The taxiway will be west of the proposed new passenger terminal and span over the proposed relocated International Gateway. Affected utilities will be supported or relocated to permit construction. The airfield perimeter road will be extended through the length of the project.⁴ This project reduces taxi time for aircraft, which reduces the requirement for fuel and causes fewer emissions. The FAA environmentally approved this project and construction began in 2005 and will continue through 2008. These projects were assumed to be completed by 2012 and therefore were included in the 2012 No Action: Alternative A, as well as all of the other development alternatives.

The environmental impacts of this project include temporary construction impacts, such as construction emissions. The temporary increase in emissions was found not to be a significant impact. In addition, it was demonstrated that after this project is completed, a reduction in air pollution and other impacts will occur as a result of increased efficiency for taxiing aircraft.

7.3.2.3 Airport Loop Roadway Project

The Airport Loop Roadway project is the generic name given to a number of improvements in the midfield area of the Airport. These improvements include a loop roadway connector and various parking lot improvements. The construction and implementation of this project is planned to coincide with the Stelzer Road/International Gateway Interchange project. The project will eliminate all traffic signals on airport property providing free flow of vehicles to the existing passenger terminal and parking areas, and will reduce current on-airport traffic congestion at peak hours.⁵ The project will also enhance access capacity at the existing passenger terminal and enhance vehicular traffic safety by eliminating turning movements across conflicting traffic patterns. This project has been environmentally approved by the FAA. These projects were assumed to be completed by 2012 and therefore were included in the 2012 No Action: Alternative A, as well as all of the other development alternatives.

The project would cause temporary construction emissions from July 2007 until the project is complete in December 2008 or early 2009. The improvement in the traffic flow will decrease emissions from motor vehicles on Airport roadways and in airport parking areas.

⁴ Information available on the CRAA web site at http://www.columbusairports.com/media/docs/PR_260_NoticeInvitingPublicComment.pdf.

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The environmental impacts of this project include temporary construction impacts, such as construction emissions. The temporary increase in emissions was found not to be a significant impact. In addition, it was demonstrated that after this project is completed, a reduction in air pollution and other impacts will occur as a result of increased efficiency for automobiles.

7.3.3 REASONABLY FORESEEABLE FUTURE ACTIONS

This section describes foreseeable future development and improvement plans at CMH and at other facilities in the vicinity of CMH that are under preliminary study or designed for possible future development.

7.3.3.1 Consolidated Rental Car Facility

The CRAA is currently planning to construct a consolidated rental car facility west of the Airport. This project will meet demand expected by 2012, reduce traffic on airport roadways, and serve the existing passenger terminal and the proposed new midfield passenger terminal.⁶ The project will include impacts to wetlands and streams, and as such, the U.S. Army Corps of Engineers (USACOE) is managing the environmental permitting required for the project. In addition, the CRAA has purchased residential and vacant land for this project. Temporary construction emissions would be expected between 2010 and 2012. These projects were assumed to be completed by 2012 and therefore were included in the 2012 No Action: Alternative A, as well as all of the other development alternatives.

7.3.3.2 City of Gahanna Hike/Bike Path Extension

Discussion has occurred between the City of Gahanna and the CRAA regarding the possibility of extending a hike/bike path along the eastern boundary of the Airport, adjacent to or within the Airport Golf Course. Final plans for this project, including path location, have yet to be completed. Likely impacts from this type of project include temporary construction emissions, potential tree removal along Big Walnut Creek, and potential construction of a bridge over Big Walnut Creek.

7.4 BASELINE FOR INCREMENTAL INCREASES IN ADVERSE EFFECTS

Chapter Four, *Affected Environment*, describes the existing environmental conditions within the study area for the runway development alternatives. If no action were to take place, it can be reasonably determined that the existing environment at CMH and its vicinity would not change significantly from current conditions. However, as the population of the region changes in the future, related changes are anticipated to occur; these changes would occur regardless of whether any of the runway and terminal development alternatives are approved and

⁶ *Port Columbus International Airport Rental Car Update & Analysis*, CRAA, February 2005; and *Program Management Airport Development Plan*, CRAA, June 2005.

implemented. Therefore, the conditions described in Chapter Four, *Affected Environment*, serve as a baseline for comparison of the incremental increases in adverse effects that would potentially result from implementation of any of the runway development alternatives.

7.5 CUMULATIVE IMPACT COMPARISON

Cumulative impacts of the Sponsor's Proposed Project and its alternatives are evaluated in this section as compared to the Existing (2006) Conditions. Several projects at CMH, past, present, and future, are described in this section as they may relate or contribute cumulatively within the various environmental categories evaluated in this EIS. In general, those projects are included because they are either within the existing Airport boundary where the EIS alternatives would be implemented or are in close proximity of the Airport and related to airport business. Consideration of impacts beyond the CMH property boundary is dependent on the environmental resource being considered, and is influenced by such factors as political and land use jurisdictions, any unique characteristics of the resource, importance of the resource in a local and regional setting, and the distance the impact within that resource can travel.

The following discussion of cumulative impacts discloses only those environmental categories where potential impacts would be caused by the Sponsor's Proposed Project or its alternatives. Those categories are: noise; compatible land use; air quality; water quality; DOT Section 4(f) Lands (Recodified as 303(c)); historical, architectural, archeological, & cultural resources; wetlands; natural resources and energy supply; hazardous materials; and construction.

7.5.1 NOISE

There are 473 housing units and an estimated 1,168 residents located within the 65 Day-Night Average Sound Level (DNL) of the 2012 Alternative C3b (Sponsor's Proposed Project) noise contour. The CRAA has committed to offering sound insulation to the homes within and adjacent to the 65 DNL that have not already received sound insulation. The analysis showed that a 1.5 decibel (dB) increase within the 65 DNL or greater noise contour over noise-sensitive land uses would result from implementation of the 2012 Alternative C3b (Sponsor's Proposed Project). This is considered a significant increase in noise levels.

None of the other past, present, or reasonably foreseeable projects result in, or have the potential to result in, noise impacts. Therefore, combining the impacts with those of the Sponsor's Proposed Project would not result in additional noise impacts.

7.5.2 COMPATIBLE LAND USE

The most notable impact to existing or future land use patterns around the Airport as a result of implementing Alternative C3b (Sponsor's Proposed Project) is the acquisition of 36 properties on East 13th Avenue. These properties would be required in order to comply with FAA design standards for keeping Runway Protection Zones (RPZs) clear of land uses that may result in human congregation. This is not considered a significant impact to existing and future land uses in the area because of the relatively small number of properties being acquired. However, because this would require people to be displaced from their homes, mitigation would include relocation assistance to the affected residents.

The Consolidated Rental Car Facility project also included the acquisition of 66 acres of residential and vacant land. None of the other past, present, or reasonably foreseeable projects result in, or have the potential to result in, land use impacts. Therefore, combining the impacts with those of the Sponsor's Proposed Project would not result in additional land use impacts.

7.5.3 AIR QUALITY

Franklin County is included in the Metropolitan Columbus Intrastate Air Quality Control Region (Columbus AQCR) along with seven other counties in central Ohio,⁷ as designated by the USEPA. The City of Columbus and CMH are located entirely within Franklin County and, therefore, are within the Columbus AQCR and subject to USEPA air quality regulations with respect to the air quality status of the AQCR. At the time of the preparation of this EIS, Franklin County was nonattainment for ozone and emissions of fine particulate matter (PM_{2.5}). As such, an analytical assessment of potential adverse air quality impacts due to the improvements proposed at CMH is required to ensure compliance with Ohio's plan to maintain healthful air quality. The discussion of air quality impacts in Chapter Five, Section 5.5, *Air Quality*, focuses on emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOC), the precursor ozone pollutants, and emissions of PM_{2.5} and the precursor of particulate matter emissions, NO_x, VOC, and sulfur oxides (SO_x). Emissions of NO_x and VOC are caused at the Airport primarily by the operation of motor vehicles and non-road mobile sources such as ground support equipment (GSE) and aircraft.

The air quality assessment of future conditions presented in Section 5.5, *Air Quality*, is required to include all reasonably foreseeable⁸ future conditions associated with emission sources at the Airport, particularly for the use of motor vehicles, GSE, and aircraft. As such, all known and quantifiable past, present, and reasonably foreseeable future actions relating to emission sources at the Airport for the 2012 and 2018 analyses were included in the modeling of pollutant concentrations.

⁷ USEPA, 40 CFR Part 81, Section 81.200, *Metropolitan Columbus Intrastate Air Quality Control Region*, data current as of May 23, 2007.

⁸ FAA, *Environmental Impacts: Policies and Procedures Order 1050.1E*, Appendix A Section 2.1c, 2006.

Construction activities will result in short-term temporary air quality impacts including direct emissions from construction equipment and trucks, fugitive dust emissions from site demolition and earthwork, and increased emissions from motor vehicles and haul trucks on the on-site and off-site roads. These impacts would occur only within the immediate vicinity of the construction site. CRAA will implement best management practices (BMPs) to reduce emissions, particularly fugitive particle emissions, during construction as described in Chapter Five, Section 5.5, *Air Quality*.

The air quality assessment in Chapter Five, Section 5.5, *Air Quality*, included the existing sources of emissions at CMH and the reasonably foreseeable projects for the 2012 and 2018 analyses. The analysis showed that none of the future baseline conditions, project alternatives, or the Sponsor's Proposed Project would have the potential to cause significant cumulative impacts.

Cumulatively, no past, present, or reasonably foreseeable future project, when combined with the Sponsor's Proposed Project, would have the potential to cause significant adverse air quality impacts.

7.5.4 WATER QUALITY

Section 5.6, *Water Quality*, in Chapter Five, *Environmental Consequences*, discussed the potential water quality impacts of Alternative C3b (Sponsor's Proposed Project). It is disclosed in that section that cumulatively there would be an increase in stormwater quantity from implementing the projects identified in this cumulative impact section, including Alternative C3b (Sponsor's Proposed Project). The increase would be at a level that the current stormwater system could not accommodate.

The CRAA is in the process of preparing a Stormwater Master Plan to address the cumulative impacts that would result from implementing all of the projects listed in this cumulative impacts section. Portions of the Stormwater Master Plan that are wholly related to the Sponsor's Proposed Project, such as the improvement of the Outfall 4 drainage basin, have been included as part of the Sponsor's Proposed Project.

7.5.5 DOT SECTION 4(f) (RECODIFIED AS 303c) LANDS

As a result of implementing Alternative C3b (Sponsor's Proposed Project), the approach lighting system for existing Runway 28L would be shifted 702 feet to the south. This would result in the reconfiguration of at least nine holes on the Airport Golf Course to meet FAA requirements regarding the location of greens, tees, or fairways in proximity to the approach lights. The CRAA and the City of Columbus are negotiating an agreement that will result in the Airport Golf Course being returned to an 18-hole facility after the relocation of Runway 10R/28L.

The only project being assessed in this cumulative impact section that has the potential to impact the Airport Golf Course is the City of Gahanna hike/bike path extension. There has been preliminary discussions between the City of Gahanna,

City of Columbus, and the CRAA concerning the project. No formal proposal has been offered for a location of a hike/bike path on the Airport Golf Course, so it is impossible to determine the potential cumulative impacts at this point. However, given that the project could only be completed with the approval of the City of Columbus, it is unlikely that significant impacts to the Airport Golf Course would occur.

None of the other past, present, or reasonably foreseeable projects have the potential to include impacts to DOT 4(f) lands. Therefore, combining the impacts with those of the Sponsor's Proposed Project would not result in additional DOT 4(f) impacts.

7.5.6 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, & CULTURAL RESOURCES

Section 5.7, *Historic, Architectural, Archeological, and Cultural Resources*, in Chapter Five, *Environmental Consequences*, discusses the potential impacts of Alternative C3b (Sponsor's Proposed Project) on historic resources. That section discloses that physical impacts to historic resources are limited to the removal of a ramp tower on Building 7 of the former Air Force Plant 85, which is eligible for listing in the National Register of Historic Places. This is not considered to be a significant impact because the ramp tower is not essential to the historic nature of the site.

None of the other past, present, or reasonably foreseeable projects result in, or have the potential to result in impacts to historic structures, archeological sites, or cultural resources. Therefore, combining the impacts with those of the Sponsor's Proposed Project would not result in additional impacts to historic resources.

7.5.7 WETLANDS AND STREAMS

Wetlands located on Airport property were delineated and classified in 2003. In 2006 the Detailed Study Area (DSA) was re-delineated through field verification. Wetland communities in the DSA included palustrine broad-leaf deciduous forests and palustrine emergent wetlands. Approximately 18 percent (1.95 acres) of the delineated wetlands are palustrine forests and 82 percent (8.62 acres) are palustrine emergent.

Section 5.10, *Wetlands and Streams*, in Chapter Five, *Environmental Consequences*, discusses the potential impacts of Alternative C3b (Sponsor's Proposed Project) on wetlands and streams. This alternative would result in the filling and culverting of 592 linear feet of an unvegetated ditch, south of existing Runway 10R/28L. Further, the ravine south of Sawyer Road that is 413 linear feet in length will be modified to create a stormwater basin, for a total of 1,005 linear feet. In addition, approximately 0.65 acres of emergent wetlands would be graded and filled as a result of relocating Runway 10R/28L (0.33 acres) and constructing a new passenger terminal (0.32 acres). The CRAA is currently in the process of developing mitigation plans and coordinating with the USACOE to obtain the necessary permits.

The Stelzer Road/International Gateway Interchange project will impact approximately 0.06 acres of wetlands. The Consolidated Rental Car Facility project will impact 4.64 acres of wetlands and 434 linear feet of stream. This brings the cumulative impact to 5.35 acres of wetlands and 1,439 linear feet of stream. None of the other past, present, or reasonably foreseeable projects result in, or have the potential to result in impacts to wetlands or streams.

7.5.8 NATURAL RESOURCES AND ENERGY SUPPLY

Section 5.15, *Natural Resources and Energy Supply*, in Chapter Five, *Environmental Consequences*, discusses the potential impacts of Alternative C3b (Sponsor's Proposed Project) on energy and natural resources. Implementation of this alternative would result in increased use of energy resources, such as natural gas, fuel, and electricity. There would also be a temporary increase in demand for building materials. However, none of the increased demand for energy or building supplies would result in significant or adverse impacts due to the relatively small amount of anticipated increase in demand for each.

None of the other past, present, or reasonably foreseeable projects have the potential to include significant adverse impacts on natural resources or energy supply. The types of projects considered would have minimal needs for natural resources during construction and would have minimal requirements for energy. Therefore, combining the impacts with those of Alternative C3b (Sponsor's Proposed Project) would not result in significant natural resource or energy supply impacts.

7.5.9 HAZARDOUS WASTE

Section 5.17, *Hazardous and Solid Waste*, in Chapter Five, *Environmental Consequences*, discusses the potential impacts of Alternative C3b (Sponsor's Proposed Project) on known hazardous materials. Implementation of Alternative C3b (Sponsor's Proposed Project) would result in potential hazardous waste impacts due to the demolition of a number of small structures on the Airport, as well as the removal of 35 homes on East 13th Avenue, east of Sterling Avenue. The hazardous material impacts are not of a significant nature and primarily include lead paint, asbestos, and in some cases petroleum products located in above and underground storage tanks.

None of the other past, present, or reasonably foreseeable projects result in, or have the potential to result in hazardous material impacts. Therefore, combining the impacts with those of the Sponsor's Proposed Project would not result in additional impacts from hazardous materials.

7.5.10 CONSTRUCTION IMPACTS

Construction activities are generally short-term and temporary in nature, and do not usually cause significant adverse environmental impacts at airports. The construction impacts analysis conducted for this EIS indicates that implementation of the proposed runway and terminal development would not have the potential for

any long-term adverse impacts. Construction would cause minor short-term impacts in the categories of noise, air quality, water quality, and surface transportation, as described below. The short-term impacts of the construction process can usually be mitigated with proper construction management and the use of BMPs, as outlined in FAA Advisory Circular (AC) 150/5370-10A, *Temporary Air and Water Pollution, Soil Erosion and Siltation Control*. The same conclusion has been or can be reached for each of the other past, present, or reasonably foreseeable projects. Because construction impacts are typically temporary and limited to the specific construction site, it can be concluded that combining the impacts with those of the Sponsor's Proposed Project would not result in significant or adverse impacts.

7.5.11 SUSTAINABLE DESIGN AND DEVELOPMENT

It is anticipated that, if approved, sustainable design and development strategies would be incorporated, to the greatest extent possible, into the implementation of any of the runway and terminal development alternatives, thereby lessening potential impacts to the environment and creating a benefit to the environment as well.

The CRAA will ensure compliance with all Federal, State, and local environmental regulations, and will seek to set the standard for environmental protection and mitigation measures in the construction and implementation of the Sponsor's Proposed Project. It is anticipated that the reasonably foreseeable future projects planned at CMH would follow the same design and development guidance while striving to achieve their goals with minimal impacts on the environment.

7.6 CONCLUSIONS AND FINDINGS

The discussion of cumulative impacts discloses the impacts of the runway and terminal development under consideration in the CMH EIS in combination with past, present, and reasonably foreseeable future actions at CMH.

As described in Chapter Four, *Affected Environment*, the study area encompasses a built environment, dominated by transportation uses, commercial and industrial development, and residential areas. This built environment limits the categories within which cumulative impacts would occur. With combined cumulative effects of the Sponsor's Proposed Project and the past, present and reasonably foreseeable projects described in this chapter, cumulative impacts are limited to those categories listed under Section 7.5, *Cumulative Impact Comparison*. The level of cumulative impacts anticipated to occur within these categories would not be considered significant due to the types of projects proposed, the extent of the built environment in which they will occur, and the options considered or implemented to mitigate for unavoidable impacts.