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## 5.5 SECONDARY (INDUCED) IMPACTS

In accordance with FAA Order 1050.1E, this section examines the potential for induced or secondary effects directly attributable to the alternatives under consideration. The Order states:

Major development projects often involve the potential for induced or secondary impacts on surrounding communities. When such potential exists, the [environmental assessment] shall describe in general terms such factors.

Proposed development at O'Hare represents a major infrastructure project that would have both socioeconomic and surface transportation effects. This section evaluates whether any direct impacts would be likely to generate adverse secondary (induced) effects for each of the alternatives under consideration.

### 5.5.1 Background and Methodology

This section describes regulatory context, thresholds of significance for consideration of induced or secondary impacts and the methodologies used to assess such impacts within this area.

#### 5.5.1.1 Regulatory Context

The FAA is responsible for the consideration of Secondary (Induced) impacts in an EIS. FAA Order 1050.1E (Appendix A, 16.4c) states:

When the [analysis] indicates substantial induced or secondary effects directly attributable to the proposal, a detailed analysis of such effects will be included in the EIS. As pertinent and to the extent known or reasonably foreseeable, such factors as effects on regional growth and development patterns, and spin-off jobs created will be described.

#### 5.5.1.2 Thresholds of Significance

FAA Order 5050.4A *Airport Environmental Handbook* describes criteria for considering induced impacts as:

(4) Induced Socioeconomic Impacts. For major airport development proposals there is the potential for induced or secondary impacts on surrounding communities. When such potential exists, the [analysis] shall describe in general terms such factors as shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity to the extent influenced by the airport development. Induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use or direct social impacts. In such circumstances, a more thorough analysis of induced effects may be needed in an environmental impact statement.

The evaluation within this section considers each of the above categories. An impact is defined as significant if an alternative is likely to be a primary or major cause of change in one of the above categories in a manner that is inconsistent with the historical development of the Chicago region.

### 5.5.1.3 Methodologies

**Section 5.4, Social Impacts**, presents the direct impacts associated with the relocation of residents and businesses, and the corresponding loss in tax base associated with each of the alternatives under consideration. **Section 5.3, Surface Transportation**, includes a detailed analysis of the existing and predicted levels of service of the roads in the Project Area. Finally, **Section 5.21, Environmental Justice**, evaluates if any of the impacts disproportionately impact minority or low-income communities. Those sections address the direct socioeconomic and transportation impacts within the portions of 18 communities making up the Project Area as shown in **Exhibit 4-1 in Chapter 4, Affected Environment**.

This Secondary (Induced) Impact section evaluates the potential for secondary (induced) effects over a larger geographic area. Proposed development at O'Hare would increase employment and induce growth in employment, and possibly population, compared to the No Action Alternative (Alternative A), however, the exact location of these changes cannot be precisely determined. For this reason, this analysis relies upon a larger study area. The evaluation of impacts that could adversely affect regional development is considered for the six-county Northeastern Illinois Planning Commission (NIPC) planning area. NIPC is the Metropolitan Planning Organization (MPO) for the northeastern Illinois region, including Cook, DuPage, Kane, Lake, McHenry, and Will Counties. The potential for impacts that could strain municipal infrastructure and services are evaluated for the 18 municipalities with any portion contained in the Project Area, as well as the 14 municipalities outside of the Project Area but with any portion shown in the baseline map in **Exhibit 4-1**.

Included are evaluation of the potential for changes in population growth, business activity, and demand for public services. Because of the Build Alternative's high potential to stimulate economic growth in the region, the most probable indirect impact would be due to the consequences of increased employment. Significant job creation has the potential to increase demands on urban infrastructure and modify the growth of the Chicago region. Construction employment, associated with airport development, is usually brief in duration and unlikely to cause long-term changes in regional growth. Therefore, the increase in construction jobs is not evaluated for potential secondary (induced) impacts.

An employment forecast with municipal disaggregations has been developed for the Build Alternatives. This is compared and contrasted to the NIPC long-range population, household and employment forecast for the six-county northeastern Illinois area that includes O'Hare and its environs. This comparison assesses the ability of the Chicago region to absorb a potential increase in employment without reshaping regional growth, or overwhelming the public services of communities.

### 5.5.1.4 Employment Forecasts

#### **Northeastern Illinois Planning Commission (NIPC)**

The NIPC regional population and employment forecasts, which are updated every three years, are intended to portray a most likely future given anticipated market forces and the impacts of

expected public policy. The current forecasts were endorsed in September 2003.<sup>1</sup> Between 2000 and 2030, the NIPC forecasts show regional employment to increase by 1.24 million, or 29 percent over 2000 levels. **Exhibit 5.5-1** shows the expected distribution of population changes in the six-county region and **Exhibit 5.5-2** shows the expected distribution of employment changes. These distributions are predicated upon sufficient land area being available for development and redevelopment within each jurisdiction.

There were three steps in the development of the NIPC forecasts. The first was the generation of region wide totals for population, households and employment. The employment forecast was derived from results prepared by the Regional Economics Application Laboratory in the spring of 2002. Population results were generated with migration assumptions derived from the employment forecast. The second step was the compilation of expected local land use patterns through meetings with local governments. Supported by an interactive mapping tool, called Paint-the-Town, NIPC staff attempted to meet with each of the region's 272 municipalities to determine 2030 municipal boundaries and expected land development and redevelopment within each jurisdiction. The final step included adjustment for overlapping jurisdictions, translation of land use results to transportation zones, and reconciliation to the regional totals produced in step one. Adjustments were determined by applying employment allocation shares from model runs used in the development of prior employment forecasts.

### **Regional Economic Impact**

For the purpose of evaluating indirect economic impacts on the Chicago region, a series of economic studies<sup>2</sup> have been prepared by Hamilton Rabinovitz & Alschuler, Inc. (HR&A/[CCT]) that describe the structure of the Chicago metropolitan economy in 2002 and a projection to 2018. The studies use a Chicago region-specific version of a sophisticated regional econometric model (REMI). The model estimates O'Hare's contribution to the economy, and provides a preliminary projection of how this contribution differs under the level of air transportation activity associated with the Build Alternatives and the No Action Alternative by the year 2018. These estimates and projections are presented for the six-county regional area utilized by NIPC. HR&A compared their estimates of regional employment growth with NIPC forecasts. The FAA's Third Party Contractor (TPC) reviewed the HR&A work and concurred with the general findings.

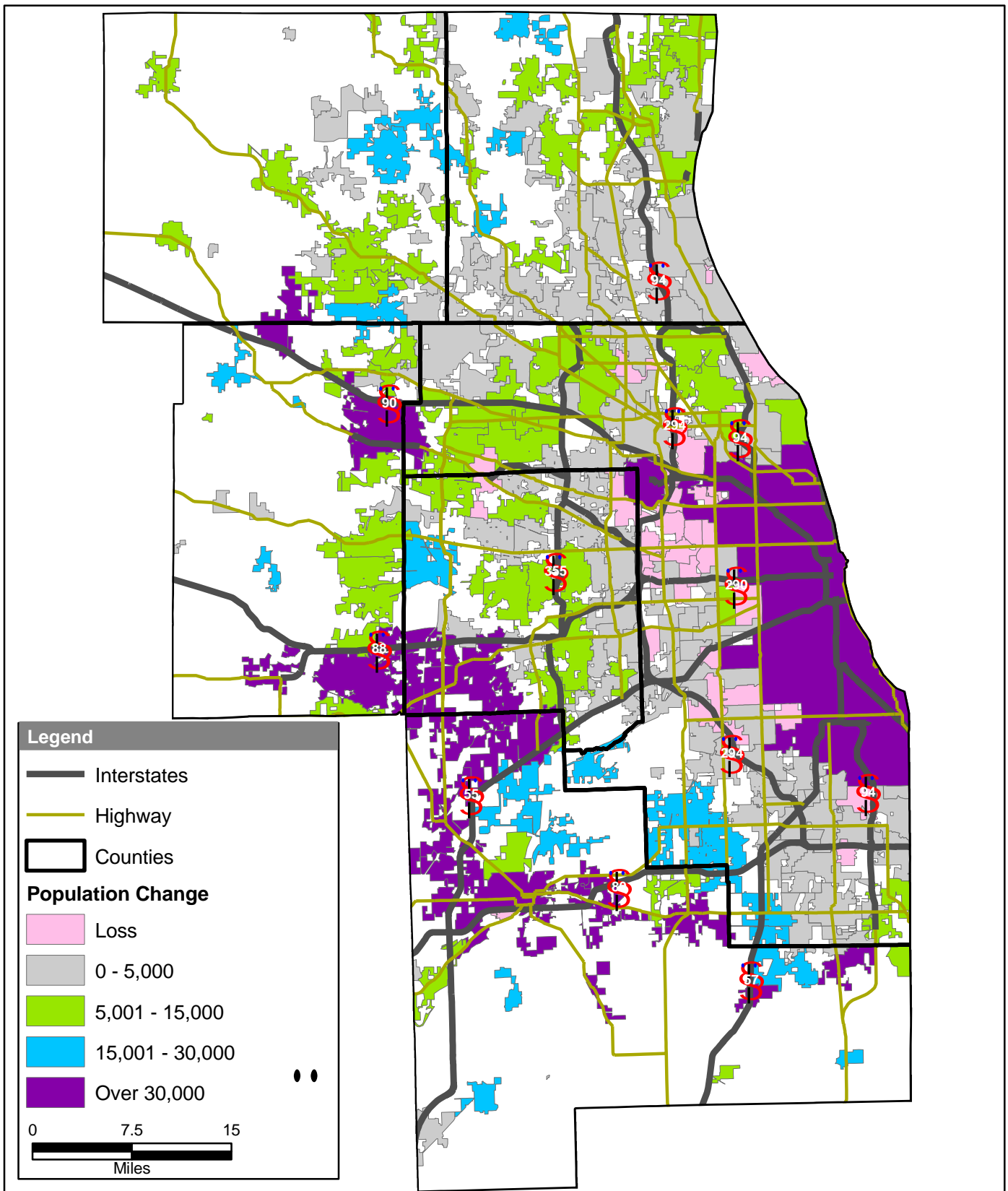
The HR&A studies also present geographic disaggregation (distribution) of economic impact estimates and projections for the Build Alternatives and the No Action Alternative. The distribution of these regional values is presented for each of the six counties that define the Chicago metropolitan regional economy, and for cities and towns that surround O'Hare. The distributions are derived from the above-mentioned regional forecast developed by HR&A. The model combines industry-sector detail from the regional economic impact results with

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<sup>1</sup> Long Range Forecasting at NIPC, Uncovering the Science and the Art, 03D\_InterpAssume.htm, CD compiled by NIPC, June 2004.

<sup>2</sup> Hamilton, Rabinovitz & Alschuler, Inc. [CCT], OMP and No-Project Regional Economic Impact Estimates and Projections, August 23, 2004 and Regional Economic Disaggregation, December 24, 2004.

industry-level detail of existing employment distribution within the region, measured at the scale of 2,439 census tracts in the region, as documented in the Census Transportation Planning Package (CTPP), a specialized data set in the 2000 national census. TPC reviewed the disaggregations and independently compared the results with the employment disaggregation published by NIPC. The key results of this comparison are presented herein.



Source: Northeastern Illinois Planning Commission, September 30, 2003.

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### 5.5.2 Baseline Conditions

As indicated in **Chapter 4, Section 4.3.3, Population**, in 2000 the population of the six county Chicago Metropolitan area was 8,091,720 and there were approximately 4,323,207 jobs in the region. The Chicago region has a vibrant economy and has experienced substantial growth in both employment and population over the past decade. There is every reason to expect that Chicago will continue to play an important role in the national economy and remain a leader in economic growth.

### 5.5.3 Alternatives Analysis

The secondary (induced) effects for each alternative under consideration can be evaluated by considering the consequences of the resulting increase in employment as forecast in the HR&A studies. The increase in permanent employment would commence with the completion of the first phase and increase thereafter to a project related employment increase of 49,390 jobs by 2018. This analysis year represents the expected conditions and impacts during the fifth year of operation following the final increment of the alternative selected, (including either the No Action Alternative or one of the Build Alternatives). Thus, in evaluating the potential for a secondary (induced) effect resulting from the increased employment, it is reasonable to focus the analysis on the year of peak impacts (2018). If there are no adverse impacts in the peak analysis year, it can then be generally concluded that other analysis years would similarly not experience an adverse impact.

The three Build Alternatives (Alternatives C, D, and G) would differ from each other in terms of physical development and operational characteristics. No substantial difference in aircraft and passenger activity levels are expected among these alternatives. Since there are no projected differences in activity levels, the increase in employment is forecast to be identical for all three build alternatives and the analysis of the development alternatives is consolidated.

#### Alternative A – No Action

In the HR&A analysis of the No Action Alternative (Alternative A), the overall 2018 employment related to O'Hare would increase by 8.3 percent, or 39,840 jobs, from the present level. This increase is comparable with the overall growth forecast for the region, and the forecast of constrained aviation activity at O'Hare. The O'Hare-related employment in the region is expected to slip slightly from 9.9 percent of all jobs to 9.8 percent. The employment forecast for the No Action Alternative (Alternative A) indicates that there would be 49,390 fewer jobs related to O'Hare than there would be under the Build Alternatives (Alternatives C, D and G).

Although Alternative A is the No Action Alternative, the HR&A studies forecast an increase of 39,840 O'Hare-related jobs (0.50 percent increase per year) would occur in the region by 2018. The NIPC 2030 forecast considers the long term demographic, economic, and land use patterns to predict overall growth. Based upon their analysis, NIPC predicts a total of 1.24 million additional jobs in the region by 2030 (0.84 percent increase per year). That is an increase of over 40,000 jobs per year for a period of 28 years.

Comparing the Alternative A O'Hare-related job growth rate of 0.50 percent per year to the regional total job growth rate of 0.84 percent, it is concluded that the increase in economic activity and employment associated with Alternative A is small relative to the dynamic growth of the overall Chicago region. This demonstrates that the O'Hare-related employment growth of Alternative A is unlikely to strain public resources or significantly modify the pattern of regional development.

Thus, the No Action Alternative (Alternative A) is not expected to cause a significant adverse secondary (induced) effect in 2018. Since the 2018 analysis year is expected to have the peak potential to cause an impact, it can be concluded that there would be no adverse impacts in any of the analysis years.

### **Alternatives C, D, and G**

In 2018, Alternatives C, D, and G (the Build Alternatives) would each facilitate similar levels of economic activity and employment. Thus, the potential effects of the three development alternatives are evaluated together.

In the HR&A analysis of the handling of unconstrained demand at O'Hare (i.e. Alternatives C, D, and G), the overall 2018 O'Hare-related employment would increase by 18.5 percent, or 89,240 from the present level. The rate of increase is slightly ahead of the total employment growth forecast for the region. The O'Hare-related employment in the region would be expected to grow slightly from 9.9 percent of all jobs to 10.6 percent. Since airfield capacity would accommodate projected unconstrained demand in 2018, the employment forecast for the Build Alternatives indicates that there would be 49,390 more jobs related to O'Hare than there would be for the No Action Alternative (Alternative A).

As stated previously, the HR&A economic forecast for the Build Alternatives projects that an increase of 89,240 O'Hare-related jobs (1.07 percent increase per year) would occur in the region by 2018. The NIPC 2030 forecast, on the other hand, predicts a somewhat lower growth rate of total jobs in the region of 0.84 percent per year.

The total increase in regional employment attributed to O'Hare development is a relatively small share of the total regional employment increase forecast by NIPC. The NIPC study is based upon the continuance of existing policies and a deliberate identification of land that is available for development. Therefore, it may be concluded that the Build Alternatives are unlikely to cause adverse effects at the regional level.

Individual towns were also evaluated to determine if any are likely to experience unanticipated changes of a comparatively large magnitude. By examining the HR&A forecasts of disaggregated employment impacts, the potential for a localized adverse impact can be assessed. The results of the disaggregation study should only be used for planning purposes and not used as a commitment or promise of employment growth. The HR&A study identified 15 municipalities within this section's study area that were likely to receive more than 250 incremental jobs related to the Build Alternatives. Towns and cities with proposed project related employment impact below this threshold were not considered further, as such an increase could be accommodated by a small office building without creating an adverse impact

on the development of a community. The towns and cities below this threshold include some that are within the defined Project Area (Franklin Park, Norridge, Northlake, Harwood Heights, Addison, Bensenville, Itasca, and Wood Dale).

Of the fifteen cities and towns identified by HR&A as expecting greater than 250 additional jobs related to the Build Alternatives, five of those were identified in the NIPC 2030 study as expecting an increase of greater than 10 times that number prior to 2030. This is shown in **Table 5.5-1**. Since the increase in employment related to the Build Alternatives was less than 10 percent of the forecasted longer term growth, it can be concluded that the increase in employment related to the Build Alternatives would not be the primary or major cause of employment growth for these communities (including Chicago, Schaumburg, Elk Grove, Hoffman Estates, and Glenview). Thus, the projected increase in employment would not represent an adverse impact in the population growth patterns or the demand for public services for these five communities.

**TABLE 5.5-1  
EFFECT OF EMPLOYMENT INCREASES ON GROWTH PATTERNS**

<b>Community</b>	<b>HR&amp;A Disaggregation Study 2002 - 2018 Increase in employment related to the Build Alternatives</b>	<b>NIPC forecast 2000 - 2030 Regional employment growth</b>	<b>Would the Build Alternatives be a major cause of growth?</b>
Chicago	18,886	240,730	No
Des Plaines	1,824	1,808	Possibly
Elk Grove	1,613	36,853	No
Rosemont	1,387	5,639	Possibly
Schiller Park	1,286	1,263	Possibly
Schaumburg	570	23,541	No
Rolling Meadows	550	5,008	Possibly
Skokie	502	654	Possibly
Hoffman Estates	483	13,596	No
Glenview	442	23,623	No
Arlington Heights	432	3,335	Possibly
Mount Prospect	348	2,608	Possibly
Elmhurst	285	143	Possibly
Niles	268	449	Possibly
Park Ridge	267	1,551	Possibly

Sources: Hamilton, Rabinovitz & Alschuler, Inc. [CCT], OMP and No-Project Regional Economic Impact Estimates and Projections, December 24, 2004.  
Long Range Forecasting at NIPC, Uncovering the Science and the Art, 03D\_InterpAssume.htm, CD compiled by NIPC, June 2004.

For the remaining ten cities and towns, the employment increase attributable to the Build Alternatives is compared to the overall employment forecast by NIPC as shown in **Table 5.5-2**. For eight of the ten, the project related employment increase would be less than five percent of the forecast employment. At levels of less than five percent of total municipal employment, it is reasonable to conclude that the Build Alternatives would not adversely burden urban

infrastructure or modify the growth patterns of the residential and business communities in those eight towns.

The two villages expected to experience an employment increase attributable to the Build Alternative with greater than five percent of the NIPC employment forecast are Rosemont and Schiller Park. These villages are located on the eastern edge of O'Hare and include portions of the Airport. The fact that these villages are mature and well established indicates that they are unlikely to be inundated by the employment growth resulting from the Build Alternatives. This ability to accommodate growth is reflected in the active efforts of both villages to attract new development and employment. In addition, the projected employment growth attributable to the Build Alternatives of 1,387 jobs and 1,286, respectively, is comparable to the employment associated with a large office building. Development of such an office building is consistent with current growth patterns and municipal economic development efforts. Thus, it is concluded that the Build Alternatives are unlikely to strain municipal infrastructure or provision of services in the villages of Rosemont or Schiller Park.

**TABLE 5.5-2  
EFFECT OF PROPOSED PROJECT RELATED EMPLOYMENT INCREASE ON  
STABLE COMMUNITIES**

Community	HR&A Disaggregation Study		Are Build Alternatives a primary or major cause of change?
	2002 - 2018 Increase in employment related to the Build Alternatives	NIPC forecast 2030 employment	
Des Plaines	1,824	62,167	No
Skokie	502	40,108	No
Rosemont	1,387	19,196	Possibly
Schiller Park	1,286	10,111	Possibly
Rolling Meadows	550	28,214	No
Arlington Heights	432	61,594	No
Mount Prospect	348	21,005	No
Elmhurst	285	41,572	No
Niles	268	27,819	No
Park Ridge	267	22,227	No

Sources: Hamilton, Rabinovitz & Alschuler, Inc. [CCT], OMP and No-Project Regional Economic Impact Estimates and Projections, December 24, 2004.  
Long Range Forecasting at NIPC, Uncovering the Science and the Art, 03D\_InterpAssume.htm, CD compiled by NIPC, June 2004.

The surface transportation demands associated with the Build Alternatives have also been included in the CATS regional transportation model. Regional surface transportation planning and modeling efforts anticipate vehicle access to the airport consistent with annual growth of about 3 percent per year in airport activity over the next 20 to 30 years. In comparison, under the Build Alternatives, enplanements are expected to grow at about 2.6 percent per year through 2018. Thus, regional surface traffic resulting from the Build Alternatives has been included in regional development plans and is unlikely to cause a significant adverse impact on a regional level. See **Section 5.3, Surface Transportation**, for further information on surface transportation impacts.

The Build Alternatives are expected to generate a significant increase in regional employment and economic activity, but this is relatively small compared to the underlying economic growth anticipated for the Chicago regional economy. Further, planning for the Chicago regional economy includes adequate capacity for the O'Hare-related growth in jobs, as indicated by the NIPC 2030 forecast showing a continuation of robust growth through 2030 – well after the analysis year of 2018. It can be concluded that the O'Hare-related employment growth of Alternatives C, D, and G would be unlikely to strain the urban resources or significantly modify the pattern of regional development.

Thus, the Build Alternatives are not expected to cause a significant adverse secondary (induced) effect in 2018. Since the 2018 analysis year is expected to have the peak potential to cause an impact, it can be concluded that there are no adverse secondary (induced) impacts in any of the analysis years.

#### **5.5.4 Potential Mitigation Measures**

The direct effects of the project are addressed in **Section 5.3, Surface Transportation**, **Section 5.4, Social Impacts**, and **Section 5.21, Environmental Justice**. These sections have all identified appropriate mitigation measures. The secondary (induced) effects resulting from increases in employment and economic activity for the Build Alternatives are not expected to cause any significant adverse impacts. Since the secondary effects of the Build Alternatives are unlikely to result in a strain on the urban resources, and they are not anticipated to cause a significant modification to the patterns of regional development, no mitigation is necessary.

#### **5.5.5 Summary**

Each of the Build Alternatives would result in an increase in the economic activity associated with the Airport compared to the No Action Alternative (Alternative A). The Build Alternatives under consideration (Alternatives C, D, and G) are estimated to result in an increase of 89,240 jobs, approximately 49,390 more than the No Action Alternative (Alternative A).<sup>3</sup> **Table 5.5-3** summarizes that the potential secondary (induced) impacts for each of the alternatives are consistent with regional forecasts developed by the NIPC. As noted in **Section 5.5.1.4, Employment Forecasts**, the NIPC forecasts are based on local municipal input indicating that there is sufficient land in the region to accommodate forecast residential and employment growth.

After considering all of these factors, it can be concluded that the economic and employment activity associated with any of the alternatives are not expected to be the primary or major cause for a shift in patterns of population movement and growth; public service demands; or a change in business and economic activity. Thus, there are no significant adverse secondary (induced) effects with any of the alternatives.

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<sup>3</sup> Hamilton, Rabinovitz & Alschuler, Inc. [CCT], OMP and No-Project Regional Economic Impact Estimates and Projections, August 23, 2004.

**TABLE 5.5-3  
SUMMARY OF SECONDARY (INDUCED) IMPACTS**

Secondary (Induced) Impact Category	Alternative A	Build Alternatives (Alternatives C, D, and G)	NIPC Regional Forecast
Employment Growth Rate	0.50%	1.07%	0.82%
Fraction of Regional Employment that is related to O'Hare	Baseline	9.9%	9.9%
	Build Out + 5	9.8%	10.6%
Airport Related Surface Traffic Growth Rate(a)	2.8%	3.4%	3.0%

Note: (a) See **Appendix G**, **Table G-7** for airport activity (annual original/destination enplanements) by alternative.  
Sources: Hamilton, Rabinovitz & Alschuler, Inc. [CCT], OMP and No-Project Regional Economic Impact Estimates and Projections, August 23, 2004.  
Long Range Forecasting at NIPC, Uncovering the Science and the Art, 03D\_InterpAssume.htm, CD compiled by NIPC, June 2004.