Elgin O'Hare -West Bypass (EO-WB) - 2030 Baseline Socioeconomic Data Development Methodology

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The intent of the memorandum is to document the process and methodology that is used to establish the 2030 Baseline Socio-Economic *variables (households & employment) used* in the development of the 2030 Baseline travel forecasts.

2030 Baseline (No-Action) Scenario:

The 2007 CMAP Existing and 2030 CMAP RTP Socio-Economic estimates were the starting points for the 2030 Baseline forecast development.

1. Background

The initial assessment consisted of assembling the socio-economic data at the CMAP Traffic Analysis Zone (TAZ) and Sub-Zone level to understand the distribution and densities within the project study area. A meeting/workshop was set-up to discuss the process and methods to establish guidelines to generate the 2030 Baseline socio-economic estimates for the project.

Factors that influenced residential (household) choices were discussed to understand the basis for distribution patterns in the study area. Some of the factors were:

– Accessibility
– Price of the land
– Schools
– Utilities
– Brown field sites/ Green field sites
– Household location (some areas are more attractive than others)
– Residential services
– Protected land
– Zoning/policies/value

In addition to household choices, non-residential factors that influence employment location choices were discussed. These included:

– Congestion relief
– Obsolete industrial structures/Opportunities for redevelopment
– Roadway connectivity/intrazonal connectivity
– Frontage visibility
– Community aspirations (future projects)

One of the key factors that were critical both in terms of residential and non-residential choices was accessibility, roadway connectivity and location. Therefore, an initial process was agreed upon by the project team to assess changes in trip making characteristics within the study area based on an *accessibility* measure that would be used in the 2030 CMAP RTP travel demand model which would be used as a starting point to estimate the 2030 Baseline socio-economic forecasts.

2. 2030 Baseline Preliminary Socio-Economic Initial Assessment

The 2030 CMAP RTP socio-economic data was forecasted primarily using "paint to town" exercise and consisted of around thirty major infrastructure improvements including the Elgin O'Hare West Bypass project. Since the EO-WB project was a sub-area study in the regional context the 2030 CMAP RTP scenario was used as the basis for developing the 2030 Baseline preliminary estimates.

The 2030 CMAP RTP travel demand model was re-run without the Elgin O'Hare - West Bypass project as part of the regional network using a **land use accessibility logit model**. This resulted in a 2030 Preliminary EO-WB Baseline (No-Action) travel forecast for the project study area.

It should be noted that the transit projects that were part of the 2030 CMAP RTP scenario was assumed to be part of the 2030 Baseline scenario for the Elgin O'Hare - West Bypass project and hence the logit model only reflected change in roadway accessibility in the project study area with out the Elgin O'Hare - West Bypass.

The ratio between the conformed 2030 CMAP RTP and 2030 Preliminary EO-WB Baseline (No-Action) (No-Action) travel model results that resulted from the accessibility logit model was used to estimate 2030 Baseline Preliminary Socio-Economic data for the project study area.

The 2030 Baseline preliminary socio-economic data was developed based of the 2030 CMAP RTP socio-economic data within the project study area, which resulted in a reduction of households and employment in the project study area for the 2030 Baseline scenario. The reduction in socio-economic estimates was limited to the project study area and the difference was reallocated/redistributed within the regional framework to keep the 2030 CMAP RTP conformed socio-economic totals constant.

3. Adjustments to 2030 Preliminary 2030 Baseline Socio-Economic Estimates

Establish "Super Zones" – Aggregate CMAP TAZ

The intent of developing "Super Zones" is to establish homogenous land use locations throughout the study area to assess changes in households and employment at an aggregate level due to the extensiveness of the study area traffic analysis zones.

Exhibit 1 shown below was developed as boundaries to use for 2030 Baseline socio-economic assessment. The "Super Zones" were grouped primarily based on existing land use and county boundary. Exhibit 1 shows the "Super Zones" developed for the project study area.
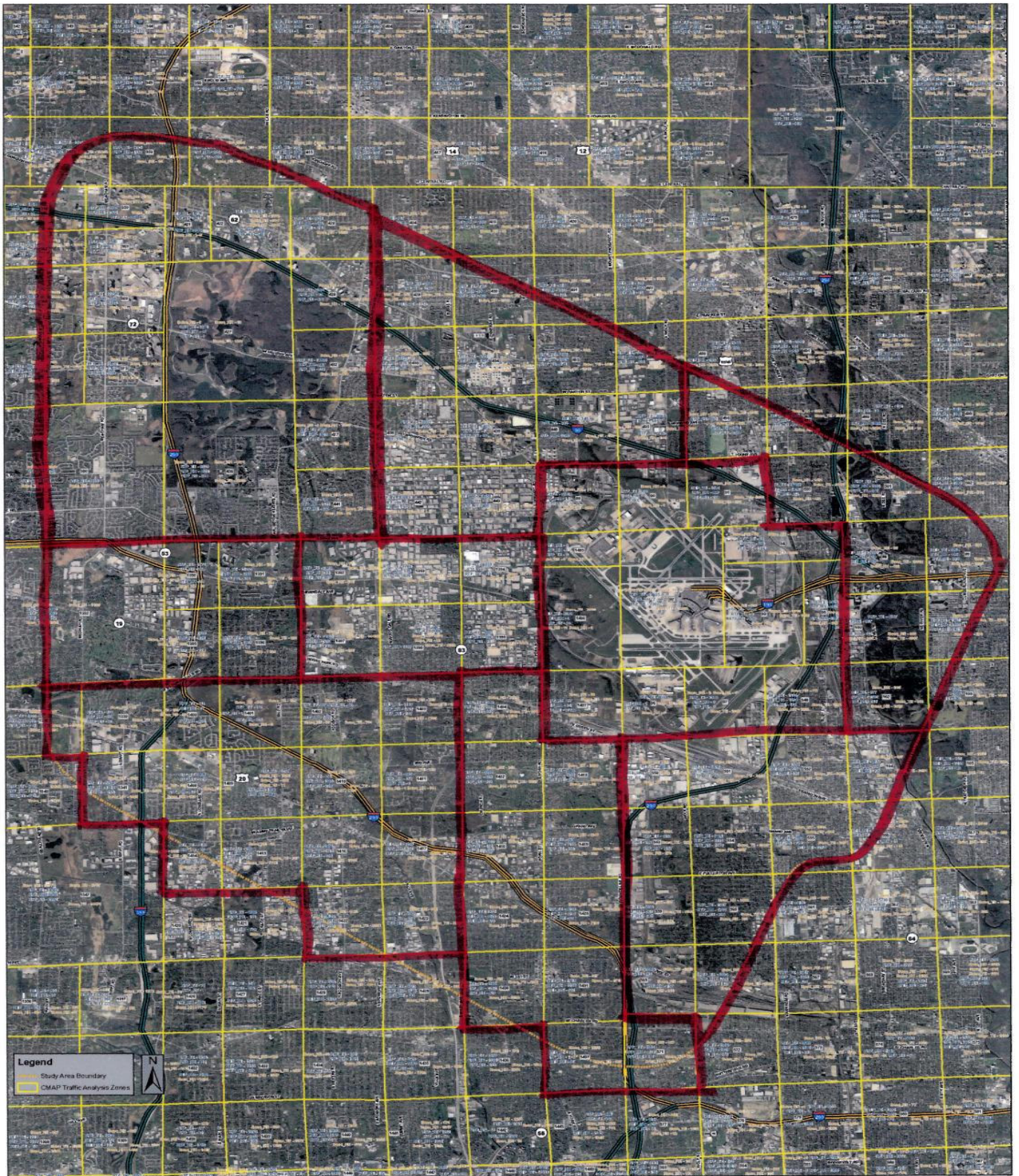
Exhibit 1
Project Study Area "Super Zones"

The "Super Zones" used for the 2030 Baseline assessment was limited to the previously established project study area boundary. However, based on the alternative development process, the study area was expanded west to include the remaining portion of the Elgin O'Hare Expressway. The Final 2030 Baseline estimates reflect the revised study area boundary.

The overall 2030 Baseline preliminary socio-economic estimates were reallocated based on the "Super Zones". In addition to "Super Zones" reallocation, adjustments to specific traffic analysis zones that would experience direct impact due to the No-Action alternative was addressed based on input gathered during the workshop from the project team.

Employment Forecasts (Reallocation and Adjustments)

As part of the DuPage West O'Hare Economic Development Study the socio-economic forecasts estimated about 40,000 new jobs throughout the county under the build condition (Elgin O'Hare extension and West Bypass). The 2030 Baseline initial assessment yielded a difference of about 30,000 jobs between the 2030 CMAP RTP and 2030 Preliminary Baseline scenario, which is consistent with the DuPage county study thereby establishing credibility between two independent forecast efforts.

Based on the outlined "Super Zones" and examining specific CMAP traffic analysis zones the project team/panel provided insights on fixing anomalies within the study area where employment estimates for the 2030 Preliminary Baseline scenario was too high or too low. Discussed below are some specific zones that had specific issues on estimated 2030 Preliminary Baseline employment.

Zone 89:

Zone 89 is located in the northwest corner of the O'Hare airport. There is an increase of about 5000 jobs between existing and 2030 Preliminary Baseline estimates, which the expert panel indicated was too aggressive due to ongoing airport modernization. The airport will acquire about 30% of that area to build a clear zone as part of the airport expansion and since the traffic analysis zone is going to lose land, it is expected to have a decrease in the number of jobs.

It was agreed by the expert panel and decided that Zone 89 will be discounted by 50% to have an increase in employment of only 2500 jobs instead of 5000 jobs for the final 2030 Baseline estimates.

Zone 432 & Zone 433:

Majority of land use in Zone 432 includes a Forest preserve and Zone 433 is residential. The increment in number of jobs from existing to 2030 Baseline is over 200%, which is too high and unrealistic given existing land use. It was suggested by the expert panel to adjust employment for 2030 Baseline based on applying a growth rate using adjacent zones of similar land use within the "Super Zone" for this area.

Zone 1407:

Zone 1407 is a residential zone located south of Irving Park road southwest of O'Hare airport. Due to the ongoing O'Hare modernization there will be approximately 400 jobs that

would be lost due to demolitions for airport expansion and the 2030 Baseline will be accordingly adjusted to reflect this condition.

Overall the project team/panel agreed on making adjustments to 2030 Preliminary Baseline Employment forecasts using the following guidelines:

- Adjust the employment forecasts for 2030 Preliminary Baseline using growth factors for zones with unexpected high employment numbers

- Keep employment numbers constant with existing employment totals for zones that reflect a reduction in 2030 Preliminary Baseline employment below existing levels due to over correction in accessibility reallocation.

- Adjust O'Hare Airport Employment to be consistent with the O'Hare Modernization Program and CMAP RTP forecasts.

The final outcome of the data manipulation is to keep the overall change of between 30,000 and 40,000 jobs between the 2030 CMAP RTP and 2030 Final Baseline estimates for the study area.

- **Household Forecast** *(Reallocation and Adjustments)*

The study area is well developed in terms of households/population and the change in households between existing and 2030 CMAP RTP forecasts is less than 3%.

There are two major contributing factors that could affect change in households and result in a decrease in households between existing and future. They are:

- Demolitions due to land abandonment

- Conversions of land use from residential to commercial

Since there are no major changes anticipated for the study area in the planning horizon the project team/panel agreed and decided on using the following guidelines to adjust 2030 Preliminary Baseline household forecasts:

- Adjust household totals to match existing numbers for zones that reflect a reduction in 2030 Preliminary Baseline households below existing levels due to over correction in accessibility reallocation

- Zones that have a reduction from 2030 CMAP RTP totals and is greater than existing totals will remain unchanged.

4. Final 2030 Baseline Socioeconomic Estimates

The Final 2030 Baseline Socioeconomic estimates summarized in Table 1 in conjunction with the 2030 CMAP RTP Socio-Economic estimates in the study area were used to factor the 2030 CMAP trip tables to produce the Final 2030 Baseline (No-Action) Trip Tables. These 2030 Baseline trip tables were then used to generate Final 2030 Baseline (No-Action) Travel Demand.

TABLE 1

2030 Baseline Socioeconomic Estimates

Scenario	Revised Study Area				Chicago Region	
	Households	% Increase	Total Employment	% Increase	Households	Total Employment
Existing	198,850	N/A	569,500	N/A	3,614,060	5,141,100
2030 RTP	204,400	2.8%	687,400	20.7%	4,364,300	6,493,000
2030 Baseline	202,500	1.8%	649,600	14.1%	4,364,300	6,493,000