

STOPS FOR CHICAGO

Guide to Regionally Calibrated Model Inputs

Version 1.50rta1.0



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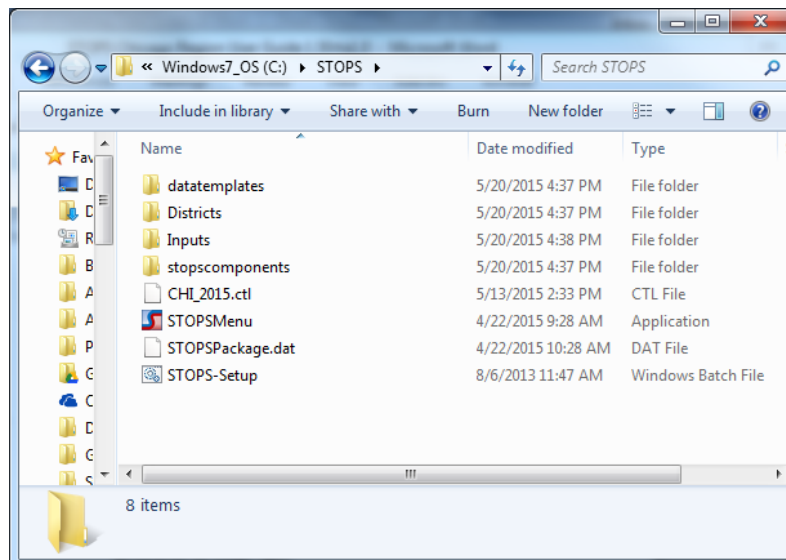
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PREPARING STOPS FOR THE CHICAGO REGION

I. Downloading and organizing the directory

- A. Download the latest version of STOPS from FTA's website:
<http://www.fta.dot.gov/grants/15682.html>
 - i. Unzip the archive to the location you wish to house the program and its data. Preferably this should be somewhere near the top of a file structure to keep filenames short with at least 100 GB of available space to house the travel time skim files. After extracting, you can safely delete the .zip archive file.
 - ii. Run the STOPS-Setup.bat file to extract the STOPS program, which includes the STOPSMenu program file and a few other files and folders
- B. Download and unzip the latest version of "RTA's Regionally Calibrated STOPS Inputs.zip" (Chicago Regional Inputs) from www.rtams.org.
 - i. Unzip the sub-archive "STOPS_CHIinputs_mmddy.zip" to your local computer into the main STOPS directory from the previous step, alongside the STOPSMenu program file
 - ii. The following folders and file should now be visible
 - a. Inputs\
 - b. Districts\
 - c. CHI_2015.ctl
- C. The folder structure should now look exactly like the screen below:



II. Chicago Current Scenario Set-Up

- A. Open STOPSMenu and select your GIS and Python Executables (see STOPS User Guide)
- B. Select Parameter file CHI_2015.ctl (you may rename this file if you wish for your project)
 - i. This will result in the text adjacent to the Steps in Scenario Set-Up changing from “Files Not Found” to “FILES FOUND!”
 - ii. From here, if you continued on to Data Preparation Steps without any other changes, you would produce model results that represent the current schedules of service across the Chicago region

III. Adding Projects

- A. Adding projects is done by adjusting the current Chicago scenario. To add a project, *follow the STOPS User Guide*, which directs you on how to add and adjust the following Scenario Set-up Steps.
- B. Details about the Chicago area inputs for the below setup steps are documented in the appendix of this guide. Use only the formats described in the appendix for adding projects.
 - i. “2. Specify Station Locations”
 - a. This step is where you add the physical location of new stations using ArcGIS, and assign values to the appropriate fields of the new station entry
 - ii. “3. Edit Parameter File”
 - a. For most purposes no changes should be required in this step; however, the occasional need to make adjustments to the following may be a result of specific project changes:
 - 1) GTFS File Set entries. These entries point to important information about existing, no-build, and build project schedules, data which is updated outside of the STOPS program but must be reflected here accurately
 - 2) Group Calibration Approach. **Modifying the group calibration can have significant impacts on model results and has been set at “06 – Static Group Calibration” for the Chicago region based on extensive scenario testing.** Specific projects may result in a need to modify this setting depending on unique circumstances. Refer to the *STOPS User Guide* for instructions on when modifying the Group Calibration may be needed and for greater detail on group calibration approaches.
 - iii. “6. Define Forecast Years”

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- a. For most purposes no changes should be required in this step; however, the occasional need to make adjustments to the following may be a result of specific project changes:
 - 1) Current, Opening, 10-year, and 20-year forecasts are limited to years CMAP has made population, employment, and auto travel time skims available. Changes here would need to be reflected in:
 - i. Inputs\MPO1601TAZPopemp.shp
 - ii. Inputs\STOPS_PATH_Auto_skim.csv
 - 2) RTA has generated additional STOPS formatted auto skims representing various pre-set build and forecast year scenarios. If different years are desired, contact RTA for formatted skim files or CMAP for raw skim files

IV. Data Preparation Steps (to be completed in order)

- A. "7. Create Station Buffers" is a fully automated step
- B. "8. Define Districts and Zonal Data"
 - i. This step opens an ArcMap document with the TAZ geographies and their corresponding fields updated for calibration districts, which are defined in greater detail in the appendix of this guide.
 - ii. Note that not all districts will be symbolized until the Symbology definitions for the DistrictZone layer are manually redefined to include all 38 defined districts
 - iii. This is where you could add more narrowly defined districts along project corridors if desired.
- C. Steps 9 & 10 are fully automated steps

V. STOPS Batch Steps

- A. Select a Build year for future comparison of build vs. no-build scenario
- B. Check all batch steps marked as "Not Complete" and click "11. Run Batch Steps" to run STOPS
 - i. Running all batch steps will take a minimum of 8 hours. It is recommended to run overnight or over the weekend while nothing else is running on your workstation. Ensure your IT Department does not have any auto-logoff or auto-shutdown process on your workstation.
 - ii. GTF Path and Post are the longest and largest processes, as they are calculating the transit travel times across the region for all scenarios and storing them as massive skim files.
 - iii. Most future model runs on the same project will not require running GTF Path or GTF Post, unless modifications have been made to GTF schedules or other station

characteristics that would result in changes in travel times. Thus, running time for new forecast years or for small changes after the initial run can be as little as 30 minutes.

VI. STOPS Reporting

- A. Clicking “12. Report STOPS Results” will produce a text file of tables of all results of the model. It is recommended to save this into a results folder somewhere you can access for later analysis, sharing, and record keeping.
- B. Clicking “13. Map STOPS Results” will prompt an option to map various output tables in ArcMap, which could be useful for sharing or comparing project results visually

APPENDIX A: INPUT FILE DETAILED DESCRIPTIONS

I. Inputs\STOPStations.shp

A. Description

This file is located in the Inputs\ folder and is opened by clicking “2. Specific Station Locations”

B. Point Feature Calibration Details

With rare exception, a single point is used to represent a single perceived station location by service type. Stations with multiple platforms or on opposite sides of a street are represented as a single station point, but with multiple STOP_ID fields (described later).

1) The following station points were added to the original file provided by FTA:

- La Fox Metra
- Elburn Metra
- Laraway Road Metra
- Manhattan Metra
- Pingree Road Metra
- Washington Street Metra
- Palos Heights Metra
- Schiller Park Metra
- Rosemont Metra
- Belmont Ave Metra
- Prairie Crossing MD-N Metra
- Grand/Cicero Metra
- South Bend Airport NICTD
- 35th Street Metra
- Morgan Green Line CTA
- Oakton Yellow Line CTA
- Cermak-McCormick Place CTA
- PACE Damen/Roosevelt
- PACE Union Station
- PACE Harrison/Halsted
- PACE Harrison/Racine
- PACE Harrison/Paulina
- PACE Damen/Polk
- PACE Damen Pink Line CTA Station
- PACE Bolingbrook Park-n-Ride
- PACE Burr Ridge Park-n-Ride
- PACE Loop/Monroe/Madison

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- PACE Plainfield Park-n-Ride Village
 - PACE Canterbury Park-n-Ride
 - PACE Loop/Congress
 - PACE Loop/Jackson
 - PACE Michigan/Randolph
 - PACE Michigan/South Water
 - PACE Michigan/Tribune/Wrigley
 - PACE Michigan/Ontario/Ohio
 - PACE Michigan/Superior
 - PACE Rt 53/Northridge/Lee
 - PACE Boughton/Pinecrest
 - PACE White Fence Farms
- 2) The following stop locations were combined from 2 stop points to 1 stop point to match Service Board GTFS schedules/reporting:
- Roosevelt CTA (Subway & El combined)
 - Clark/Lake CTA (Subway & El combined)
 - Blue Island Metra (Rock Island & Electric combined)
- 3) Additionally, the original file provided by FTA includes many locations that are not actual stops such as rail junctions and permanently closed stations. These points were removed from STOPStations.shp

C. Field Calibration Details

- 1) STATIONSEQ (used only for STOPS reporting, must be unique)
- 0 – 9,999. CTA's stations appear first, ordered generally by line with Loop stations appearing at the end of the sequence
 - 10,000 – 14,999. METRA stations appear next, starting on north routes and working toward the south, in an inbound direction with downtown stations appearing at the end.
 - 15,000 – 19,999. NICTD South Shore stations (non-Metra combined stops)
 - 20,000 – 29,999. PACE stop-stations appear last, ordered generally in the inbound direction.
 - 30,000+. Reserved for new projects.
 - Where a station belongs to multiple routes, sequences were assigned to be best reflected in reporting
- 2) STATION
- CTA – Station long names in Upper and Lower case
 - METRA/NICTD – STOPS pre-populated names in all UPPER case

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- Pace – begin with “PACE” followed by stop names in Upper and Lower case

3) STAT_CODE

- Limited to 9 distinguishable characters
- CTA = Upper and Lower case
- METRA/NICTD = All UPPER case
- Pace = begin with “P_” followed by lower case name

4) STAT_GRP

- **Leave blank for new project stations**
- CTA Station Groups are based on route, using the highest ridership route for the grouping if multiple routes serve the station. Unique groups were also created for special circumstances:
 - Loop stations, based on subway route or elevated track
 - River North Red Line stations
 - Major transfer stations:
 - Clark/Lake
 - Jackson
 - Roosevelt
 - Fullerton
 - Belmont
 - Airports:
 - Midway
 - O’Hare
- Metra Station Groups are based on line-travel times to the Loop terminus. Line-travel times are calculated for each Metra station as average walk+transit (GTFS) time for all subzones within 2 miles at 7:30, 7:40, and 7:50 start times. Each line thus has a minimum of 3 station groups, split by
 - less than 60 minute avg travel time
 - 60 – 90 minute avg travel time
 - 90 minute or greater avg travel time
 - 90 minute or greater travel time + reduced frequencies
 - Downtown station
 - Inner-core station (Clybourn, Western)
- Pace Station Groups are based on general origin/destination characteristics by corridor:
 - Suburban origin
 - Downtown destination

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5) GRP_NAME

- Leave blank for new project stations
- CTA
 - Line Color
 - LPBLUE = Loop Blue Line Subway
 - LPRED= Loop Red Line Subway
 - LPELEV = Loop CTA Elevated
 - RNRED = River North Red Line stations
 - CLK/LK = Clark/Lake Station
 - JACKSON = Blue and Red Line Jackson Stations
 - RSVLT = Roosevelt Red/Orange/Green
 - FULLER = Fullerton Brown/Purple/Red
 - BELMNT= Belmont Brown/Purple/Red
 - MIDWAY = Midway Orange Line Station
 - OHARE = O'Hare Blue Line Station
- Metra/NICTD
 - Abbreviated Line and a number based on distance from loop:
 - 1 = <60minutes
 - 2 = 60-90minutes
 - 3 = >90minutes
 - 4 = >90 minutes plus reduced frequencies
 - MRTADT = Metra Downtown
 - CLYWES = Clybourn and Western Metra stations
- Pace
 - Abbreviated Corridor and abbreviated Origin/Dest
 - i55SUB = i55 corridor, suburban
 - i55LP = i55 corridor, loop
 - i55UIC = i55, UIC area

6) DAILYBOARD

- Leave as 0 for new project stations
- CTA Weekday daily station boardings are from 2014 gathered from RTAMS (October averages)
 - Cross-platform transfers were added in at modeled transfer locations, using results in the CTA monthly ridership reports

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- Metra Weekday daily station boardings are from 2014 ridership data gathered from 2014 ridership report
- NICTD weekday daily station boardings are from 2010 scaled from 2006 RTAMS data, based on branch ridership change from 2006 to 2010 (October averages)
- Pace Weekday boardings are from 2014 RTAMS route ridership, portioned to stop-level ridership based on proportions derived from Automated Passenger Counts.
 - Pace APC data was inconsistent for full route ridership compared to ridership reported on RTAMS, but was used for obtaining stop-level estimates by applying stop-route proportions to RTAMS route ridership and averaged over stops where greater detail was not available

7) STOP_ID1 thru STOP_ID4

- STOP_ID fields are limited to 9 characters. STOPS will create an alias for STOP_IDs that are longer than 9 characters in the format “1234 #”. For Chicago, aliases were avoided by ensuring all STOP_IDs here and in GTFS files were 9 characters or shorter.
- CTA - All CTA rail stations have at least 2 and up to 4 STOP_IDs corresponding to inbound/outbound platforms used in GTFS schedules.
 - CTA rail GTFS Stop IDs are numerical, in the range 30000 to 39999 and are all less than 9 characters in length
- Metra/NICTD – All Metra/NICTD stations have 1 STOP_ID with a few exceptions
 - Metra/NICTD GTFS Stop IDs are generally the same as the station “short name”
 - **Some Metra stations have STOP_IDs greater than 9 characters.** For these, the STOP_ID was shortened by removing all characters after the 9th character. The only exception to this rule was changing the “GRAYSLAKE.” Stop ID to “GRAYSLAK.” To avoid a result that would have duplicate Stop IDs for Grayslake (there are two separate stations with this name).
 - **THE ABOVE MODIFICATIONS MUST ALSO BE MADE IN THE METRA GTFS FILES “stops.txt” AND “stop_times.txt”.**
- Pace – All Pace rapid transit “stations” have at least one but often 2 or more STOP_IDs corresponding to inbound/outbound bus stops used in GTFS schedules
 - Pace GTFS Stop IDs are alphanumeric in the format 000e1234 and are all less than 9 characters in length.

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- **Due to the nature of STOPS calculating trips based on trip end locations, it is important that each individual station point include both an outbound and inbound STOP_ID when the bus boards/alights at different stop locations. In some cases, a single station point may need to take on the STOP_IDs for several nearby bus stops for the purposes of modeling appropriately in STOPS**

8) STOPSTYPE

- Defines the station status, elevation, and parking availability
- Parking availability must be matched by a corresponding entry in the PNR.txt file (see section on GTFS files). Parking availability is determined by officially designated parking lots according to service board public information and capacity reported on RTAMS. Street-only, unregulated parking is not considered official PNR for the purposes of STOPS and is thus not coded as such.
- 1 & 2:
 - Used for CTA and Pace stations at grade level with(2) or without(1) an official PNR
- 3 & 4:
 - Used for CTA not-at-grade and all *non-downtown* Metra stations with(4) or without(3) an official PNR
- 5 & 6:
 - Used for downtown Metra stations requiring greater circulation time with(6) or without(5) an official PNR
- 7:
 - Used for Chicago Union Station which requires even greater circulation time

9) NEWSTATION

- **Set to 1 for new project stations, leave all existing stations as 0**

10) WALK_PEN, KNR_PEN, PNR_PEN, SAMEGTFX, DIFFGTFX

- These fields are used to apply a penalty (in minutes) to specific stations on the basis of added time that should be modeled for walk, kiss-n-ride (KNR), park-n-ride (PNR), intra-service transfer (SAMEGTFX), or inter-service transfer (DIFFGTFX) access to the station based on real conditions or as a shadow price to represent other factors

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- In Chicago the following calibration penalties were added:
 - Metra Stations within the CTA service area
 - 0 to 15 minute penalties to all access types and inter-service transfers
 - These are meant to represent the cost of a second fare required to make an inter-service transfer and the value proposition offered by a CTA monthly pass over a Metra pass for those living in the CTA service area where CTA service provides increased transportation flexibility
 - Lower penalties were assigned to stations in areas of higher-density, higher-frequency, at-grade service
 - Metra stations where intra-service transfers could theoretically occur
 - 5 minute penalties to some to discourage STOPS from allowing transfers between Metra lines as a time-saving proposition and to buffer for any transfers at downtown core stations

II. Districts\TZ_DistrictZone.shp

A. Description

Districts were created from a thorough analysis process using spatial grouping tools in ArcGIS. The resulting districts for the Chicago region are 34 areas grouped by modeshare similarity from the 2000 CTPP. Four additional groupings outside the 6-county RTA region were added to represent geographies in NICTD or growth zones. The 38 total defined districts leaves 12 unassigned and available districts (up to 50) for use with individual projects in STOPS as a way to more narrowly define districts within a project corridor on an as-needed basis.

It is up to the project analyst to determine how the regional districts should be further broken down for individual project scenarios, but RTA recommends retaining mode-share as a primary input in addition to adding zone-to-station distance, and transit service characteristics of the zones. ArcGIS Grouping Analysis provides a simple method of creating the districts based on field data and spatial relationships.

B. Field Calibration Details

1) CLONE_TAZ

- Chicago Regional Calibration did not result in the need to assign any clone taz's

2) DISTRICT

- Numeric district number used for reporting order, generally assigned beginning with the downtown core and expanding outward

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- 1-34 represent modeshare defined regional districts
- 35-38 represent additional districts defined by political boundaries outside the RTA 6-county service area
- 39-50 are available to more narrowly define districts along a project corridor. Recommendation is to not change any existing boundaries from districts 1-34, but rather split those into smaller districts as deemed appropriate

3) DIST_NAME

- 10 character descriptive name for district. Does not necessarily include or refer to all areas within district, but is simply meant to be descriptive of the general area within the region.
- Name must be descriptive within the first 5 characters to be readable in STOPS reports
- Only a single entry for each district is named, which is required by STOPS. The named district was chosen by selecting a TAZ from each district with a modeshare near the district's average

III. Inputs\STOP_Project_Penalty.txt

A. Description

STOP_Project_Penalty.txt applies penalties (in minutes) in the order that they appear in the file, but only the last penalty on a location takes effect, meaning they are not cumulative effects. Additionally, these are applied before any penalties in the STOPStations.shp file, and so are overridden by those penalties. This file is useful if a large area or entire region would benefit from the application of a penalty on a particular service.

For the Chicago area, a 5.00 minute penalty has been applied to GTFS File Set 4 (Pace) which has the effect of reducing the modeled demand for Pace to be more in-line with actual ridership statistics. This helps the regional model better predict and forecast ridership for Pace services and all connecting services. The fields in the header are as such:

B. Field Calibration Details

- 1) GTFFileNumber = GTFS file set number from STOPS parameter setup (0 includes all)
- 2) Stop_ID = stop ID to apply penalty to. * will include all Stop IDs in the file set
- 3) Project_Flag = 0 means not project stations, 1 is used for project stations
- 4) Min/Max Long/Lat = Coordinate extents for specifying a region
- 5) XtraTime fields = same as those in STOPStations.shp, minutes to add to travel time

IV. Inputs\STOPS_PATH_Auto_skim.csv

A. Description

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Auto travel time and distance skims for MPO zone to zone combinations are provided by CMAP tables mf44 and mf55. RTA has adjusted the format of these tables for use in STOPS, which follows the below format, without headers.

- *Origin Zone, Destin. Zone, Time(CYr), Dist.(CYr), Time(BldYr), Dist.(BldYr), Time(10yr), Dist.(10yr), Time(20yr), Dist.(20yr)*

B. Important Calibration Details

For Chicago, calibrated inputs use CMAP Zones as Origins and Destinations and the following years based on CMAP skim availability. These years match those in the MPO1601TAZPopEmp.shp file and the years specified in the “6. Define Forecast Years” step in STOPS.

- Current year (Cyr) = 2015
- Build year (Bldyr) = 2025
- 10-year forecast (10yr) = 2030
- 20-year forecast (20yr) = 2040

Any changes to these years requires modification of the following files/inputs and may require new data from CMAP’s regional model:

- STOPS_PATH_Auto_skim.csv
- MP1601TAZPopEmp.shp
- “6. Define Forecast Years” step

RTA will provide a “resources” folder with various pre-set build/forecast year scenario setups for the STOPS_PATH_Auto_skim.csv file which needs to be replaced in the Inputs\ directory if opening and forecast years are redefined in step “6. Define Forecast Years”.

V. Inputs\MPO1601TAZPopEmp.shp

A. Description

MPO Population and Employment data for past, current, and future years are provided by CMAP’s regional model. This file organizes that Population and Employment Data in shapefile database fields in the format PHHyr (population) and EMPyr (employment) for the following years:

- 2000 (used to relate to 2000 CTPP data)
- 2010
- 2015
- 2025
- 2030
- 2040

B. Important Calibration Details

If other years are requested for modeling purposes, the appropriate data would be required from CMAP and other files/inputs would additionally need updating (see IV.).

VI. Inputs\GTFS Directories

A. Description

GTFS subdirectories may include a README.txt file --- **Read this file for important changes**

GTFS files are organized in the Inputs folder as individual directories labeled in the format SVCyr-SC. These subdirectories are indicated in the “3. Edit Parameter File” step.

- SVC = Service board 3-letter abbreviation (CTA, MTR, NIC, PCE)
- yr = Year of existing or build scenario (in the Chicago region, 15 is 2015, for existing. 25 is 2025, for build. If the forecast year or build year are changed, yr does not need to be updated if GTFS files are not changed)
- SC = Scenario (CU = current, NB = No build, BD = Build)

B. Important Calibration Details

All GTFS files in the Chicago region have been modified to ensure the date **2/11/2015** (a Wednesday) is covered in schedules of normal operating conditions in the calendar.txt file. This date is reflected in the “3. Edit Parameter File” step.

Additionally, the “3. Edit Parameter File” step includes Route, Trip, and Stop ID character positions for each calibrated GTFS file set. Changing GTFS files not in accordance with this guide could result in the need to update these settings, thus it is recommended to only modify GTFS files in the format outlined here.

GTFS schedules were downloaded and updated on an ongoing basis during calibration with the most recent downloads from Winter/Spring 2015 schedules.

For the base-line calibration inputs, all service board current, build, and no-build GTFS sets are identical. For example, CTA15-CU is the same GTFS set as CTA25-BD. It is up to the project analyst to adjust future Build GTFS schedules (or no-build schedules) as appropriate to represent project service plans.

C. Service Board GTFS details

CTA

1) CTA15-CU

- Winter 2015 schedule, including Cermak-McCormick Place station

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- Added PNR.txt file representing officially designated PNR locations and calibrated PNRTYPE and PNRCosts
 - **PNR.txt must be appended for new stations with PNRs**
- 2) CTA25-NB (Same as CTA15-CU)
- 3) CTA25-BD (Same as CTA15-CU)

Metra

- 1) MTR15-CU
 - Winter 2015 schedule
 - Added PNR.txt file representing officially designated PNR locations and calibrated PNRTYPE and PNRCosts
 - **PNR.txt must be appended for new stations with PNRs**
 - All Metra stations with STOP_IDs greater than 9 characters were shortened to be 9 characters by removing the last characters of the official GTFS STOP_ID.
 - This resulted in 1 duplicate stop ID for "GRAYSLAKE". The original "GRAYSLAKE." Stop ID was thus shortened to "GRAYSLAK." to create a distinction between the two.
 - ****These changes are made to both the stops.txt and stop_times.txt files**
- 2) MTR25-NB (Same as MTR15-CU)
- 3) MTR25-BD (Same as MTR15-CU)

NICTD

- 1) NIC15-CU
 - Winter 2010 schedule, NICTD schedules have remained static
 - Added PNR.txt file representing officially designated PNR locations and calibrated PNRTYPE
 - **PNR.txt must be appended for new stations with PNRs**
 - Changed stop_id '11' to 'ELEVEN' in stops.txt and stop_times.txt to avoid duplicate stop_id error.
- 2) NIC25-NB (Same as NIC15-CU)
- 3) NIC25-BD (Same as NIC15-CU)

Pace

1) PCE15-CU

- Spring 2015 schedule
- Calendar.txt updated to include 2/11/2015
- Added PNR.txt file representing officially designated PNR locations and calibrated PNRType
 - **PNR.txt must be appended for new stations with PNRs**
- For Pace BoS (I-55 corridor) routes, the "pickup_type" and "drop_off_type" fields in stop_times.txt were adjusted. For example, inbound trips stopping at stop_id 855e0011 Clark/Cermak NB were coded with "pickup_type" = 1. This disallows STOPS assigning boardings at these locations (alightings were similarly constrained, where appropriate), to help STOP model these routes appropriately

2) PCE25-NB (Same as PCE15-CU)

3) PCE25-BD (Same as PCE15-CU)

VII. Inputs\[other input files]

A. *censusblocks_[state].shp*

- shapefiles representing census blocks across all areas in region (WI,IL,IN) are used to estimate pedestrian environment

B. *[state]_ctpp#____.dat*

- Collection of data files holding 2000 CTPP data for all states for STOPS modeling

C. *MPO####_ctpp3_sumlv944.dat*

- Collection of MPO summary level CTPP data files for STOPS modeling

D. *tz[State#]_d00.shp*

- 2000 TAZ shapefiles

APPENDIX B: INPUT CODE REFERENCE

I. Station Group Codes

#	GRP_NAME	#	GRP_NAME	#	GRP_NAME	#	GRP_NAME
1	MTRADT	16	MDW2	31	RI3	46	LPBLUE
2	CLYWES	17	MDW3	32	ME1	47	LPRED
3	UPN1	18	UPW1	33	ME2BI	48	LPELEV
4	UPN2	19	UPW2	34	ME2	49	RNRED
5	UPN3	20	UPW3	35	ME3	50	CLK/LK
6	UPNW1	21	BNSF1	36	SS2	51	JCKSON
7	UPNW2	22	BNSF2	37	SS3	52	RSVLT
8	UPNW3	23	BNSF3	38	PURPLE	53	FULLER
9	UPNW4	24	HC2	39	YELLOW	54	BELMNT
10	MDN1	25	HC3	40	RED	55	MIDWAY
11	MDN2	26	SWS2	41	BROWN	56	OHARE
12	MDN3	27	SWS3	42	BLUE	57	i55SUB
13	NCS2	28	SWS4	43	GREEN	58	i55LP
14	NCS3	29	RI1	44	PINK	59	i55UIC
15	MDW1	30	RI2	45	ORANGE		

II. District Codes

#	DIST_NAME	#	DIST_NAME	#	DIST_NAME	#	DIST_NAME
1	LOOP	14	SWCHI	27	N_GLENVIEW	40	empty
2	GLDCOAST	15	ENGLEWOOD	28	ROSEMONT	41	empty
3	LINCNPRK	16	S_CHI	29	W_BURBS	42	empty
4	N_CLYBRN	17	PALOS	30	LAGRANGE	43	empty
5	S_LOOP	18	OAKPARK	31	WLWBRK	44	empty
6	SWLP	19	GALEWOOD	32	LOMBARD	45	empty
7	LP_OUTER	20	NW_CHI	33	NWBURBS	46	empty
8	LAKVIEW	21	SKOKIE	34	SW_BRBS	47	empty
9	N_MAIN	22	EVSTN/W-RIDG	35	SW_NONRTA	48	empty
10	N_CENTER	23	EVANSTON	36	GARY	49	empty
11	RAVENSWD	24	N_SHORE	37	IN_NONRTA	50	empty
12	JEFFPARK	25	GLNCOE	38	NW_NONRTA		
13	AUSTIN	26	GLNVIEW	39	empty		

APPENDIX C: CALIBRATION ASSIGNMENT LISTINGS

I. Station Groups

- Refer to STOPSSStations.shp file for list of Stations and assigned station groups

II. Districts

- Refer to TZ_DistrictZone.shp file for list of all TAZ census zones and assigned districts

III. WALK, KNR, PNR, SAMEGTFX, DIFFGTFX_PEN (Penalties)

- Refer to STOPSSStations.shp file for list of Stations and assigned penalties

IV. PNR locations, type, and cost

- Refer to the corresponding service's PNR.txt GTFS file for list of official PNR assignments

V. STOPSTYPE

- Refer to STOPSSStations.shp file for a list of Stations and assigned STOPSTYPE

VI. Weekday Boardings

- Refer to STOPSSStations.shp file for a list of Stations and assigned DAILYBOARD weekday boardings

VII. STOP_IDs from GTFS files

- Refer to STOPSSStations.shp file for a list of Stations and assigned STOP_IDs corresponding to the GTFS stops.txt file