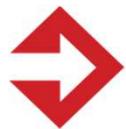


# Preparing for Plan B School Bus Routes in TIMS

*June 2020*



**ITRE**

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# Preparing for Plan B School Bus Routes in TIMS

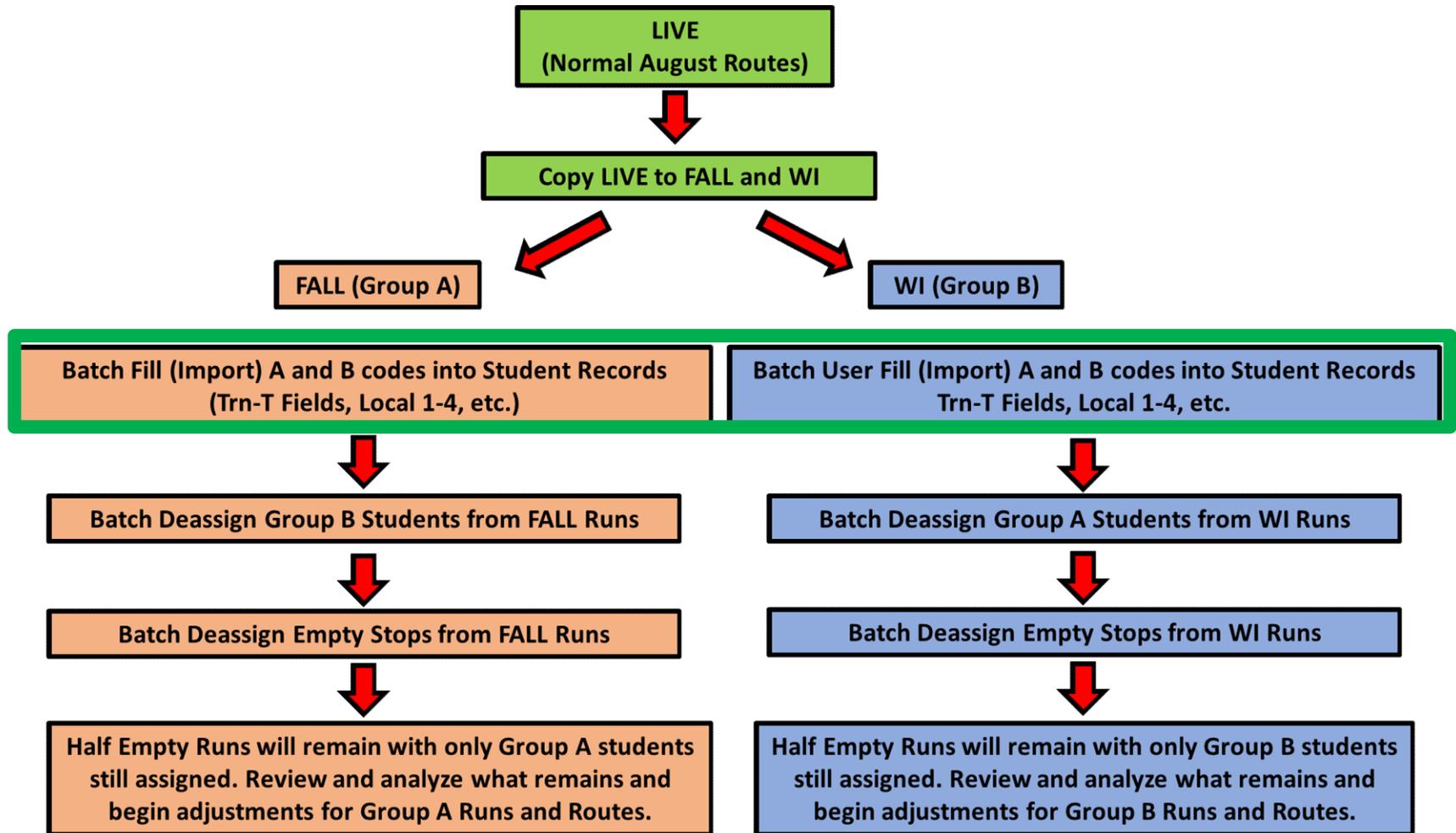
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## Session Outline

- Using a Single Database for Each Group of AB Students
- Managing A and B Databases
  - Importing Special Plan B Codes to Identify AB Bus Riders
    - EMU Process - Batch Fill User Field
    - EMU Process - Deassigning Students from A and B Databases
    - EMU Process - Deassigning Empty Stops from A and B Databases
- Evaluating Plan B Routing Requirements
  - Ridership Counts by Schools and Neighborhoods
  - Number of Bus Runs Required (Loads)
  - Improving Bus Runs
    - Resequencing Stops, Moving Stops Between Runs, Creating More Runs
    - Designing Shorter Runs to Improve Route Pairing
  - Analyzing School Supervision Time Required Before/After Bells
- Coordinate A and B Database Info with GPS Vendors

# Preparing for Plan B School Bus Routes in TIMS

## Using LIVE Data to Create A and B Databases for Plan B Bus Routes



# *Special EMU Process*

## *Batch Fill User Field*



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# Preparing for Plan B School Bus Routes in TIMS

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## Understanding EMU Processes

### **Batch Fill User Field**

Most student information in TIMS comes directly from PowerSchool (School, Grade, Home Address, Parent Names, etc.) and is overwritten during the UPSTU process, bringing in the most current information from PS.

However, there are several student fields in TIMS called “User Defined Fields” that are not overwritten during UPSTU, allowing TIMS Staff to hand-code and maintain student data during UPSTU.

Historically, some LEAs have used the AM/PM Trn-T Fields to identify students as bus riders via hand entered codes like Yes (Y), No (N), Alternate (A), Walker (W) or Special Needs (S).

The students fields called Local 1, 2, 3, 4 are also User Defined Fields capable of holding data not overwritten during UPSTU.

# Preparing for Plan B School Bus Routes in TIMS

## User Defined Field Locations – Student Tabular Screens

AM Trn D: <b>PS</b>	AM Trn T: <input type="text"/>	<del>AM Trn D: <input type="text"/></del>	OD-Bndy: <input type="text"/>	Local1: <input type="text"/>	Local3: <input type="text"/>
PM Trn D: <b>PS</b>	PM Trn T: <input type="text"/>	<del>PM Trn D: <input type="text"/></del>	OD-Cnty: <input type="text"/>	Local2: <input type="text"/>	Local4: <input type="text"/>

AM/PM Trn-D info is NOT a User-Defined Field. This data comes in during UPSTU, if AM/PM ridership info is managed on the Student Transportation Screen in PowerSchool.

Each of the following ARE User-Defined Fields that can be managed by hand or via Batch Fill in EMU.

AM/PM Trn-T =	1 Character Each
OD_Bndy/Cnty=	3 Characters Each
Local 1 & 2 =	4 Characters Each
Local 3 & 4=	9 Characters Each

User Defined Fields	
AM Trn D >:	<b>PS</b>
PM Trn D >:	<b>PS</b>
City Code:	
HR:	
OD-Cnty:	
Next:	
PM Bus D >:	
Restraint:	
Father:	
F_Work:	
M_Res:	
Emerg1:	
Emerg2:	
Mail Add:	
ADMIT Date:	
FRM:	
Local2:	
Local4:	
AM Trn T >:	<input type="text"/>
PM Trn T >:	<input type="text"/>
EC Code:	
OD-Bndy:	<input type="text"/>
Home:	
AM Bus D >:	
Loading:	
Monitor:	
F_Res:	
Mother:	
M_Work:	
Eng1 Ph:	
Eng2 Ph:	
YR:	
REGIS Date:	
Local1:	<input type="text"/>
Local3:	<input type="text"/>
Language:	

# Preparing for Plan B School Bus Routes in TIMS

## Example Student Codes and Information

Once LEAs have decided to go with Plan B options for Reopening, Schools should be able to provide you with a list of students enrolled in each attendance group (Group A, Group B, etc). Transportation Staff will need to know not only the different A and B groups but also the AM/PM Ridership Status for Students within each Group.

Given the concerns about COVID Transmission and limited days of attendance for students each week, some schools will experience an increase in Car Ridership while others may see new Bus Requests as a result of the different school schedules. Couple these changes along with limited bus capacities per load and it is more important than ever to have a reliable list of students who have requested transportation.

Example Codes:

- Local 1 = AM Transportation
- Local 2 = PM Transportation
- Local 3 = A and B Group Assignment

Local1:	<input type="text" value="N"/>	Local3:	<input type="text" value="A"/>
Local2:	<input type="text" value="Y"/>	Local4:	<input type="text"/>

Local1:	<input type="text" value="Y"/>	Local3:	<input type="text" value="B"/>
Local2:	<input type="text" value="Y"/>	Local4:	<input type="text"/>

Local1:	<input type="text" value="N"/>	Local3:	<input type="text" value="B"/>
Local2:	<input type="text" value="N"/>	Local4:	<input type="text"/>



# Preparing for Plan B School Bus Routes in TIMS

## Example Student Codes and Information

With student information like this in TIMS, LEAs now have ability to work with the data in larger groupings within the Routing System, Reports Module and perform a number of EMU Processes to get to a quicker starting place to begin Run and Route Design for the different A and B Groups.

Example Codes:

Local 1 = AM Transportation

Local 2 = PM Transportation

Local 3 = A and B Group Assignment

Local1:	<input type="text" value="N"/>	Local3:	<input type="text" value="A"/>
Local2:	<input type="text" value="Y"/>	Local4:	<input type="text"/>

Local1:	<input type="text" value="Y"/>	Local3:	<input type="text" value="B"/>
Local2:	<input type="text" value="Y"/>	Local4:	<input type="text"/>

Local1:	<input type="text" value="N"/>	Local3:	<input type="text" value="B"/>
Local2:	<input type="text" value="N"/>	Local4:	<input type="text"/>

Using these codes, TIMS Staff can easily display all students who have requested a Bus Stop AM and PM within each Group. These codes can also be used as Report Filters, to create Worklists and available to use in different EMU Batches.

Before we look at using these fields for A and B Bus Routes, lets understand how this data can be imported into TIMS from a Spreadsheet.

# Preparing for Plan B School Bus Routes in TIMS

## Understanding EMU Processes

### Batch Fill User Field

The AB Student Info should come from Schools or PS Coordinator. Ask about getting this info in a spreadsheet when Plan B becomes official. You must have PS ID to Import Student Codes into TIMS.

The AM/PM info could come from several sources, depending on data management practices in your LEA.

If your LEA uses AM/PM data from PowerSchool, then you do not need a separate spreadsheet. Some LEAs have Online Request Systems or shared bus rider spreadsheets that are completed by School Data Managers. Others use only pencil and paper forms and mostly rely on last years assignments as a guide for the new school year. No matter your methods, there are ways to get AM/PM data back into User Defined Fields for use within TIMS.

	A	B
1	PSID	AB_Local1
2	34053	A
3	288154	B
4	307096	A
5	307374	B
6	308189	A
7	317996	B
8	504268	B
9	504302	B
10	504360	A
11	549521	A
12	555897	A
13	572504	B

*AB Student Group  
Spreadsheet*

	A	B	C
1	PSID	AM_TRN	PM_TRN
2	34053	W	W
3	288154	N	N
4	307096	N	N
5	307374	N	N
6	308189	N	N
7	317996	N	N
8	504268	Y	A
9	504302	N	N
10	504360	N	N
11	549521	N	N
12	555897	N	N
13	572504	Y	Y

*AM/PM Request  
Spreadsheet*

# Preparing for Plan B School Bus Routes in TIMS

## Understanding EMU Processes

### Batch Fill User Field

In order to import data into a User Defined Field, the spreadsheet must only contain 2 columns and no column headers.

Column 1 = PSID

Column 2 = Data to Import

After getting the spreadsheet formatted into two columns, save the spreadsheet as a CSV (comma separated values) File.

*Hint: Name/Save the CSV files as the User Field you plan to import into.*

- Local1.csv
- Local2.csv
- Local3.csv
- Local4.csv

File name:	FILENAME
Save as type:	CSV (Comma delimited) (*.csv)

	A	B
1	<del>PSID</del>	<del>AB_Local1</del>
2	34053	A
3	288154	B
4	307096	A
5	307374	B
6	308189	A
7	317996	B
8	504268	B
9	504302	B
10	504360	A
11	549521	A
12	555897	A
13	572504	B

AB Student Group Spreadsheet

	A	B	C
1	<del>PSID</del>	<del>AM_TRN</del>	<del>PM_TRN</del>
2	34053	W	W
3	288154	N	N
4	307096	N	N
5	307374	N	N
6	308189	N	N
7	317996	N	N
8	504268	Y	A
9	504302	N	N
10	504360	N	N
11	549521	N	N
12	555897	N	N
13	572504	Y	Y

AM/PM need to be two different spreadsheets

	A	B
1	<del>PSID</del>	<del>AM_TRN</del>
2	34053	W
3	288154	N
4	307096	N
5	307374	N
6	308189	N
7	317996	N
8	504268	Y
9	504302	N
10	504360	N
11	549521	N
12	555897	N
13	572504	Y

AM

	A	B
1	<del>PSID</del>	<del>PM_TRN</del>
2	34053	W
3	288154	N
4	307096	N
5	307374	N
6	308189	N
7	317996	N
8	504268	A
9	504302	N
10	504360	N
11	549521	N
12	555897	N
13	572504	Y

PM

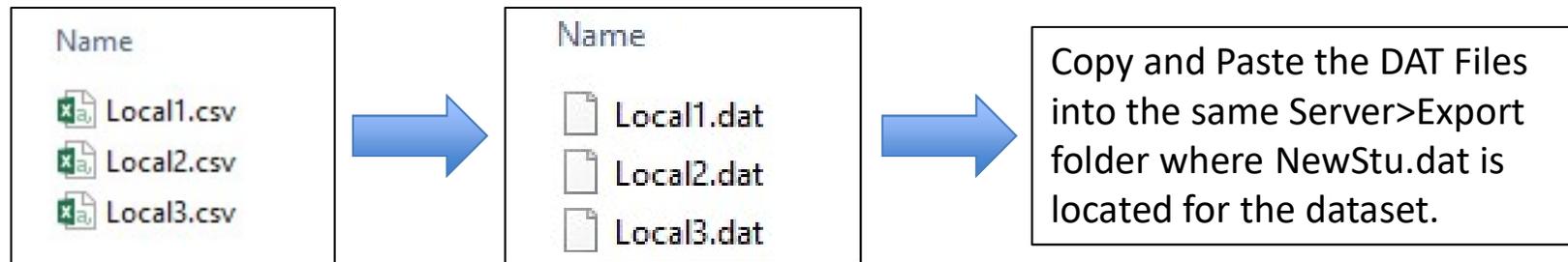
# Preparing for Plan B School Bus Routes in TIMS

## Understanding EMU Processes

### Batch Fill User Field

Just like the NewStu.Txt File needs to be named NewStu.Dat

Each of the .csv files need changed from .CSV to .DAT and moved to the Export Folder.



To check the success of saving the spreadsheet as a two column CSV file and renaming to DAT format, open the newly saved DAT Files in a text editor (TextPad, WordPad, NotePad) and they should only contain the following information **PowerSchool ID (comma) Code**

*PSID , Code*

Local1.dat x	Local2.dat x	Local3.dat x
549521,N	877368,N	288154,A
555897,N	878266,Y	307096,B
572504,Y	879079,N	307374,B
594076,Y	879177,Y	308189,A
594287,W	879203,N	317996,B
609591,Y	882523,Y	504268,B
635833,N	882991,Y	504302,A
668063,N	883544,N	504360,A
727971,N	883620,Y	549521,A
757631,Y	883666,N	555897,B
761710,Y	884454,N	
	884471,Y	

# Preparing for Plan B School Bus Routes in TIMS

## Understanding EMU Processes

### Batch Fill User Field

To build an EMU Batch that will import this data, you must know the PID Code (Place in Database) of the User Defined Field.

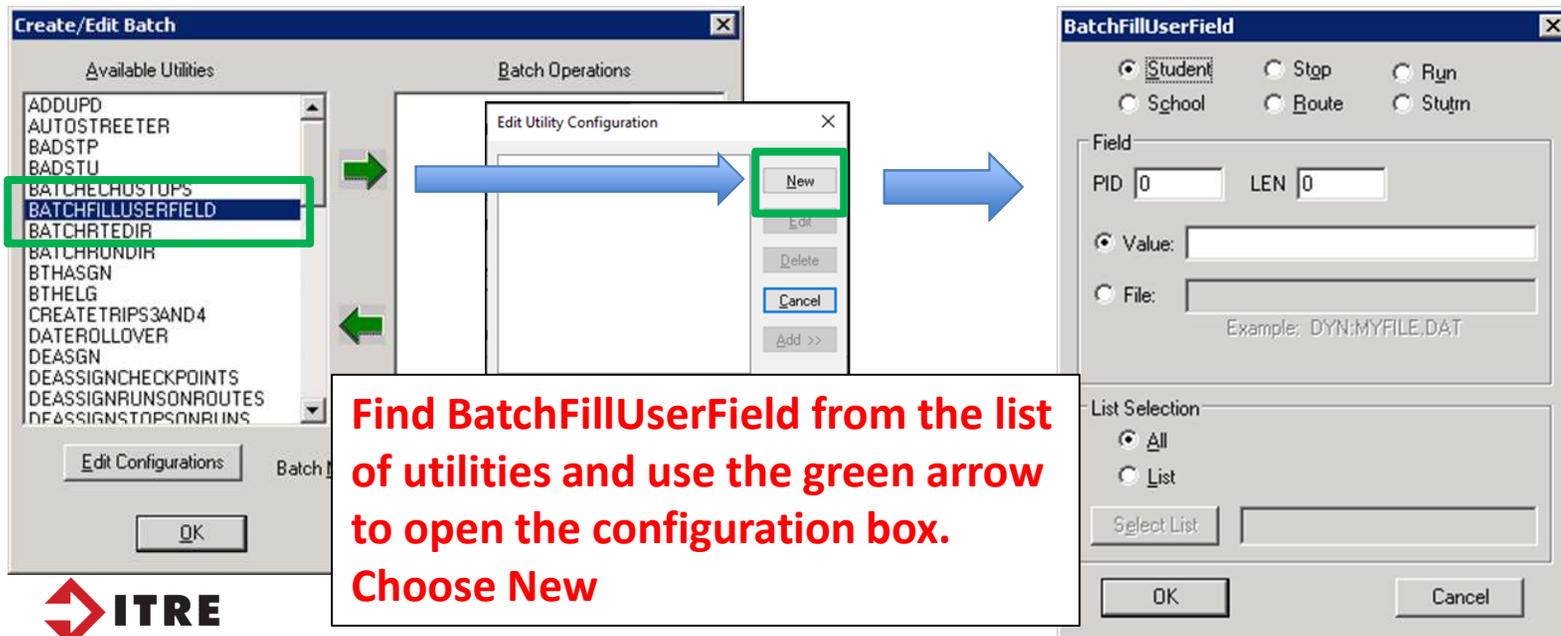
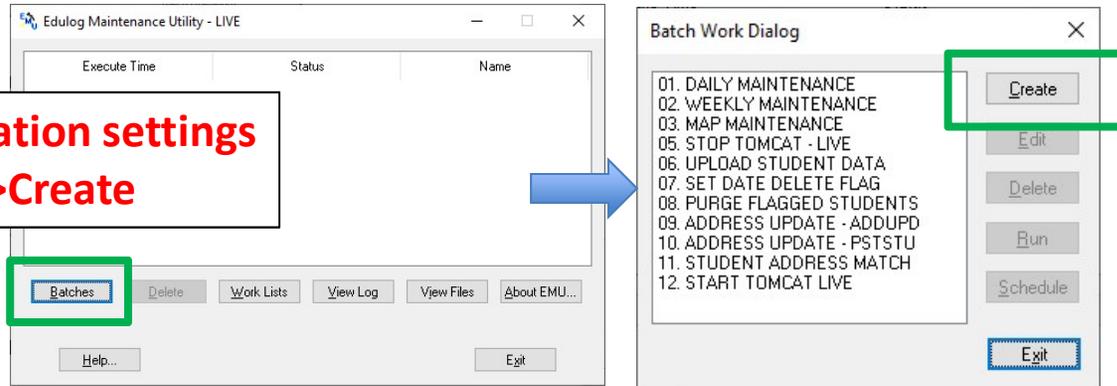
User Field	PID
AM TrnT	2
PM TrnT	4
OD_BNDRY	40
OD_CNTY	43
Local 1	585
Local 2	589
Local 3	593
Local 4	602

# Preparing for Plan B School Bus Routes in TIMS

## Understanding EMU Processes

### Batch Fill User Field

To access the configuration settings  
Open EMU > Batches > Create



Find BatchFillUserField from the list of utilities and use the green arrow to open the configuration box. Choose New

# Preparing for Plan B School Bus Routes in TIMS

When setting up a Batch Fill User Field Utility, it is important to enter the correct information and file path.

*Make sure the Student category is selected at the top.*

*Enter the correct PID for the Field you want to import into. Also enter the Max Length of any code the import file. (Remember, some fields have character limits, try to keep it simple with one digit codes like Y,N,W,A,B,C, etc...)*

*Switch from Value to FILE and enter the folder location (export) and name of the DAT File (Local1.Dat) in the following format.*

*Export:Local1.Dat (no spaces)*

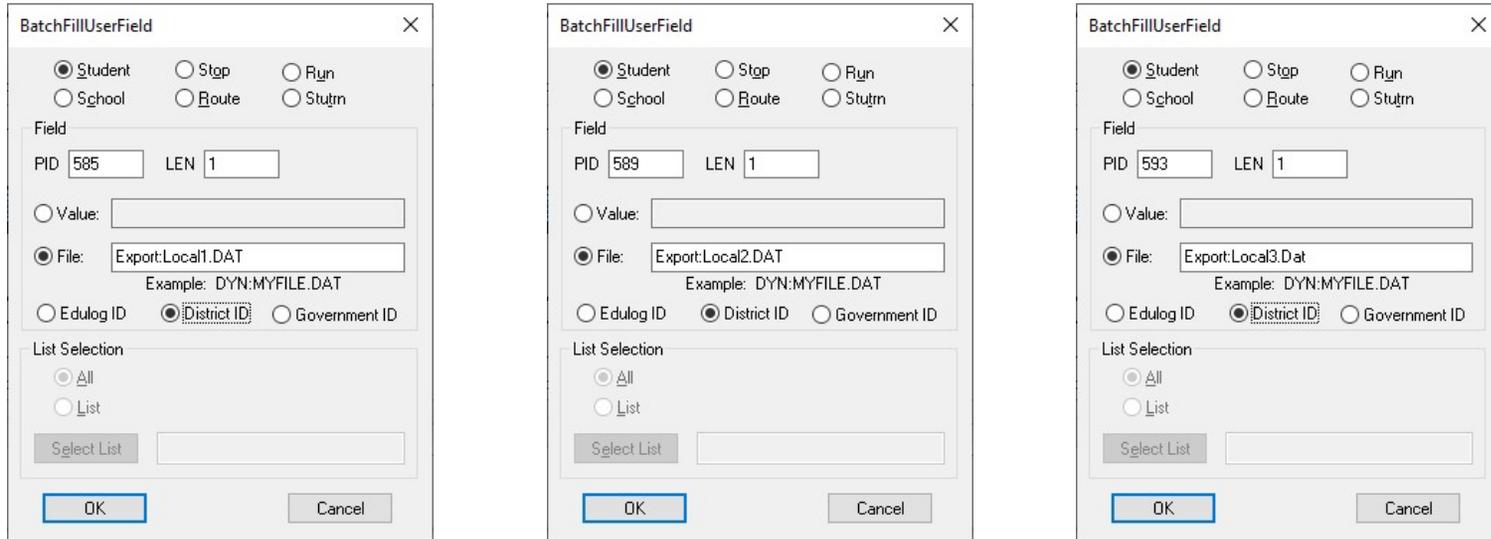
*Batch Imports can be performed on All Students or a subset of Students by a worklist. Batch Imports using PSID can be applied to All Students*

The screenshot shows the 'BatchFillUserField' dialog box with the following settings:

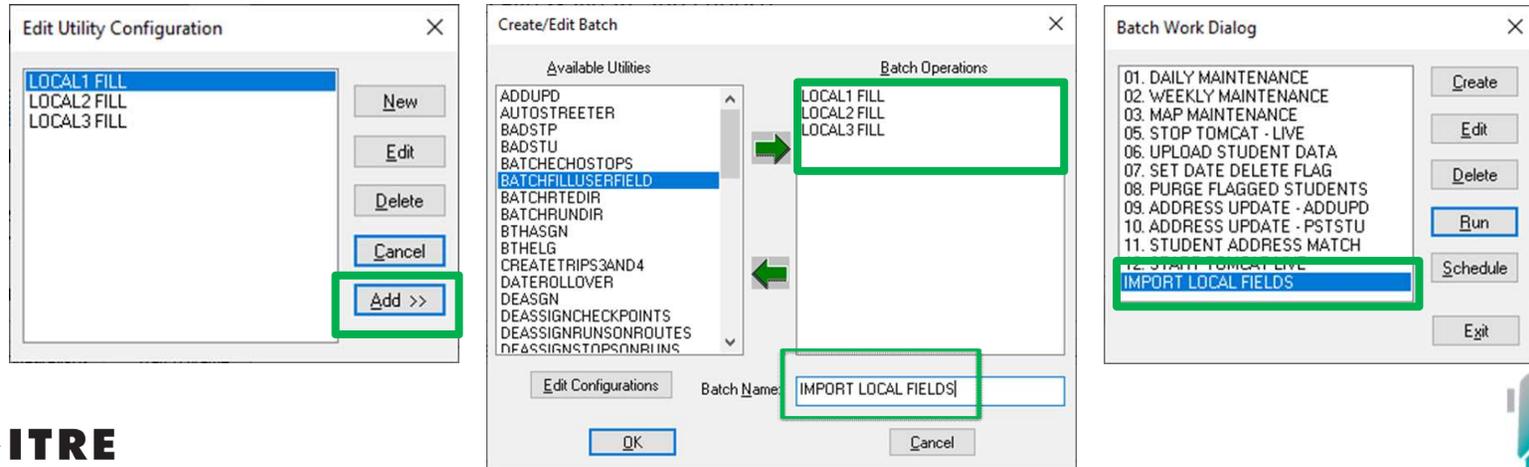
- Category:**  Student,  Stop,  Run,  School,  Route,  Student
- Field:** PID  LEN
- Value/Source:**  Value:   File:
- List Selection:**  All,  List
- Buttons:** Select List, OK, Cancel

# Preparing for Plan B School Bus Routes in TIMS

Example Configuration Setups for Local1, Local2 and Local3 Imports.

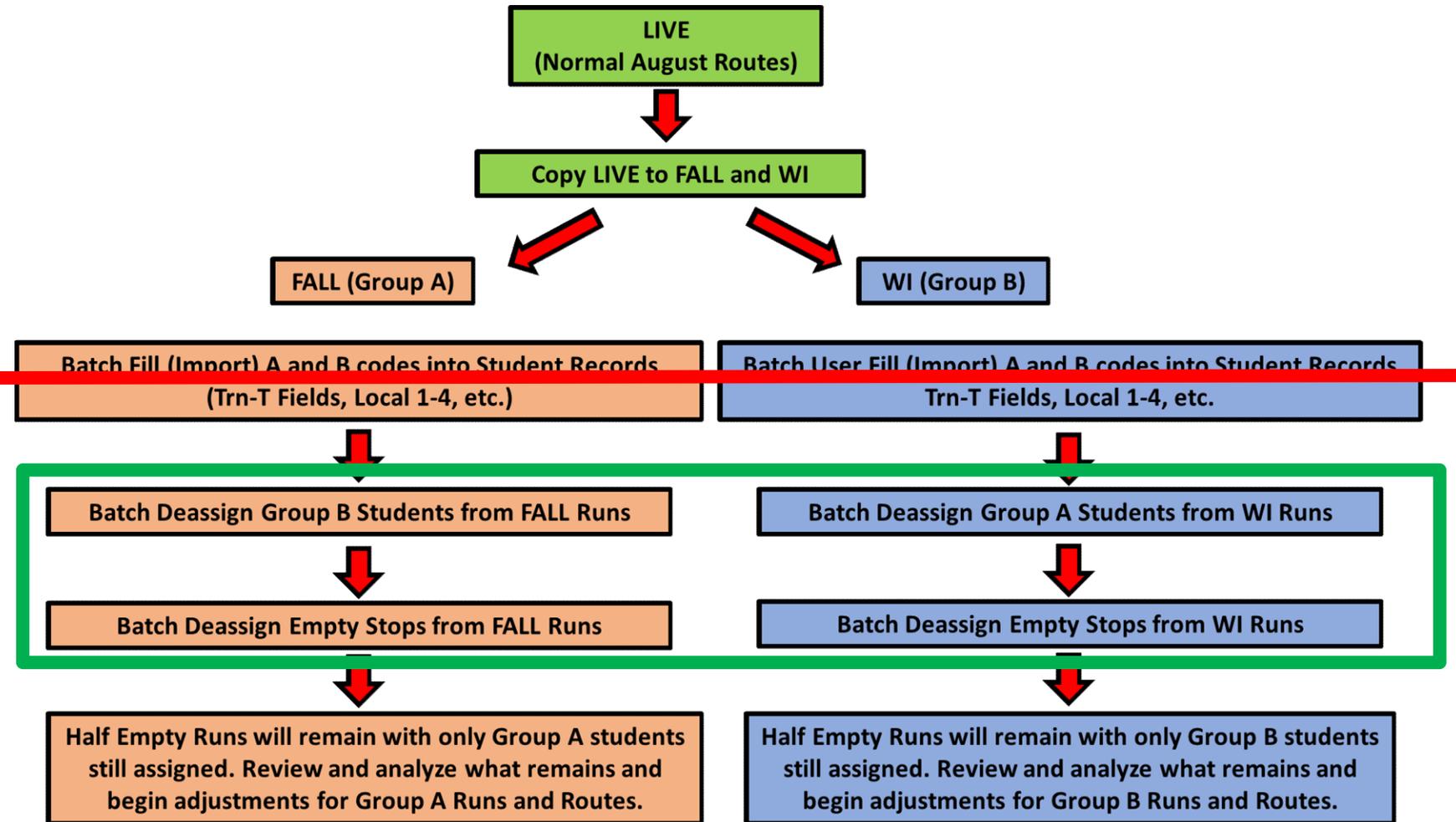


When finished, save each setup under a unique name. (ex: Local1 Fill) and add all the utility configurations to make a single EMU Batch. Name and Save the Batch accordingly.



# Preparing for Plan B School Bus Routes in TIMS

## Using LIVE Data to Create A and B Databases for Plan B Bus Routes



# *Special EMU Processes*

*Batch Deassign Students from Stops*  
*Batch Deassign Stops from Runs*

# Preparing for Plan B School Bus Routes in TIMS

## Understanding EMU Processes

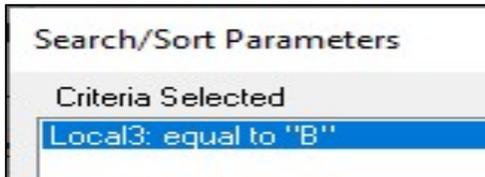
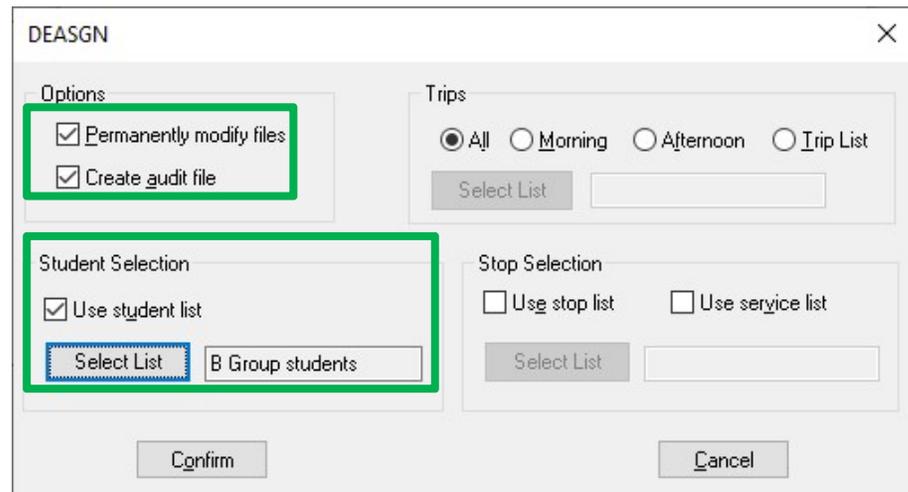
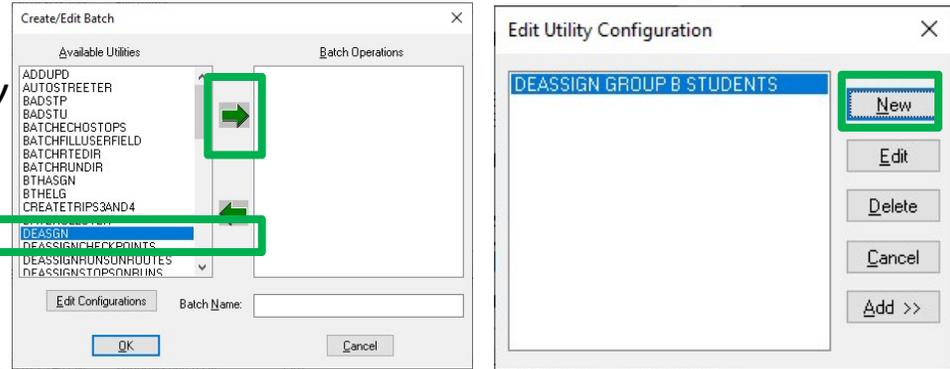
### Batch Deassign Students

Create a new EMU Batch. Look for the Deassign Student Utility (DEASGN) and set up a New Configuration needed for the database. Example – Removes Group B Student and Stops

*Batches > Create > DEASGN > New*

*Select Permanently Modify Files and Create Audit File*

*Create a Group B Student Worklist (Local 3 Equals B) and point the Deassign Utility to target only the Group B Students. When finished save and name the utility configuration.*



# Preparing for Plan B School Bus Routes in TIMS

## Understanding EMU Processes

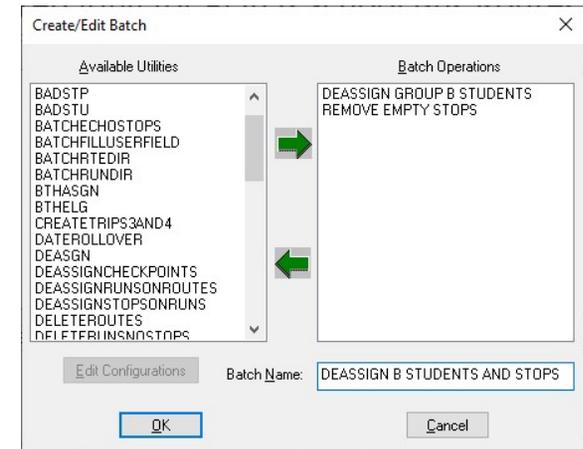
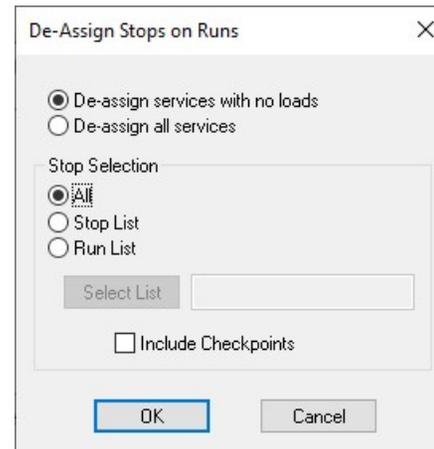
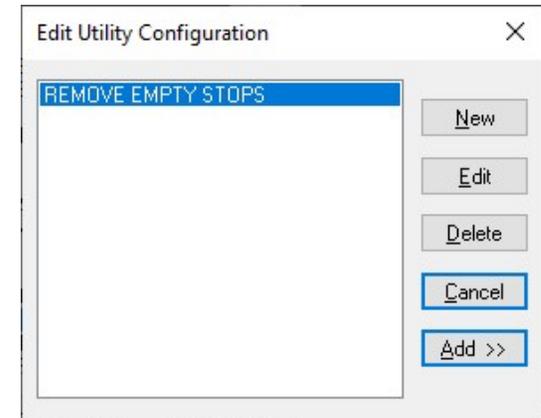
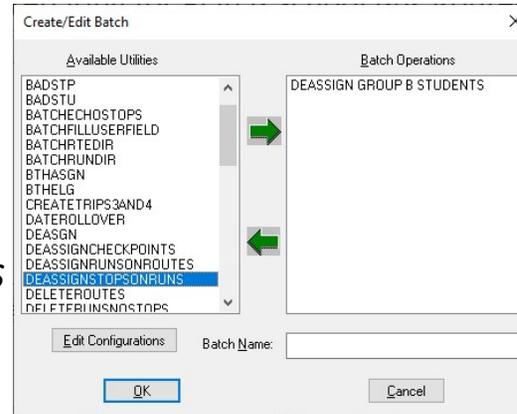
### Batch Deassign Stops on Runs

*Batches > Create > DeassignStopsOnRuns > New*

*Select De-Assign Services With No Loads*

*Choose All Stops for this example, but you could also target just certain stops or runs from a worklist. You can also deassign checkpoints as part of this process, but this is not needed here.*

*When finished, Save and Name the new configuration. (Remove Empty Stops)*



# Preparing for Plan B School Bus Routes in TIMS

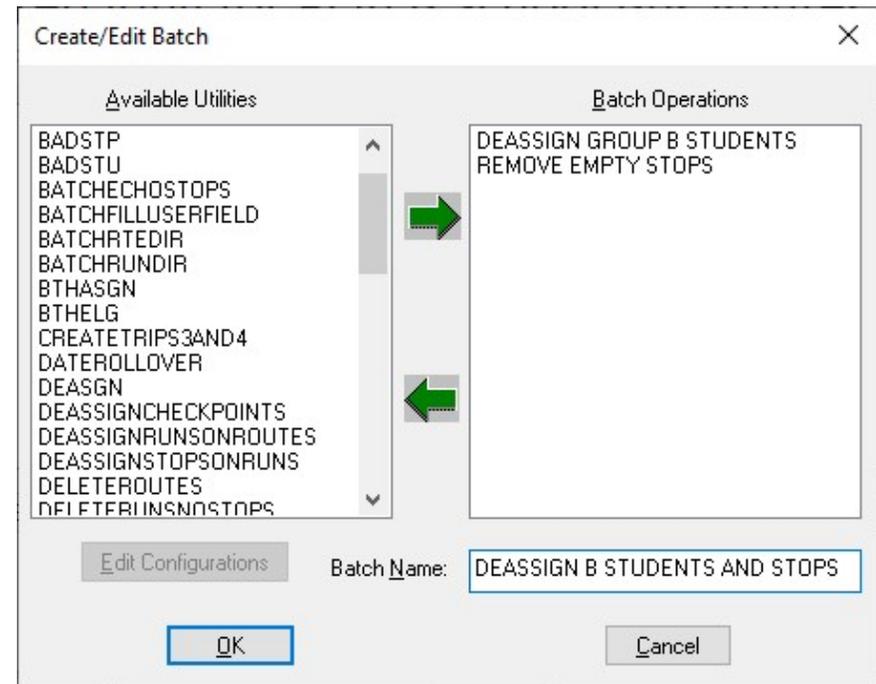
## Understanding EMU Processes

### Removing Group B Students and Stops

*After setting up both EMU Utility Configurations, you can add both of these to the same EMU Batch and remove Group B Students from Stops and Remove Empty Stops from Runs in a single process.*

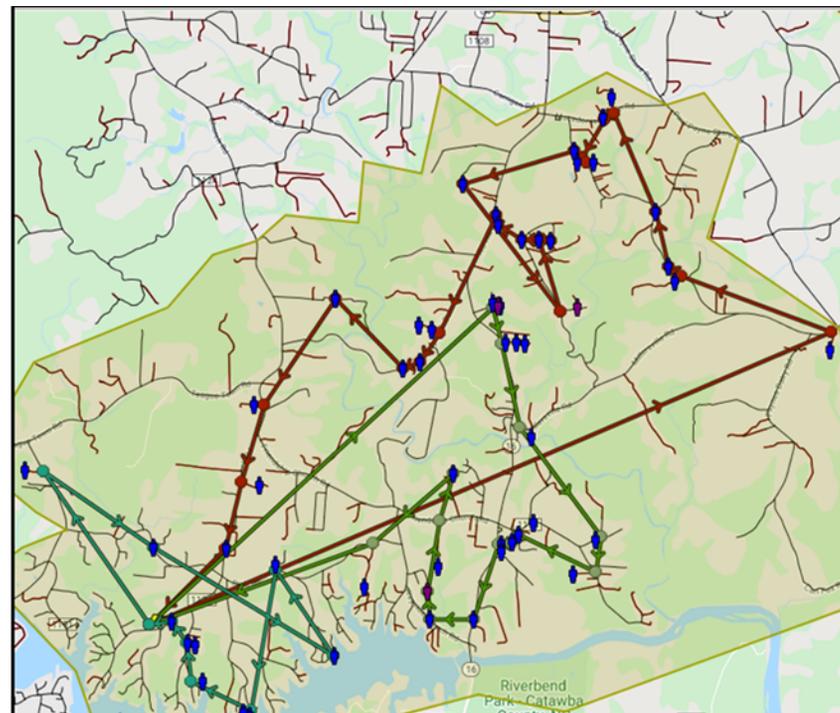
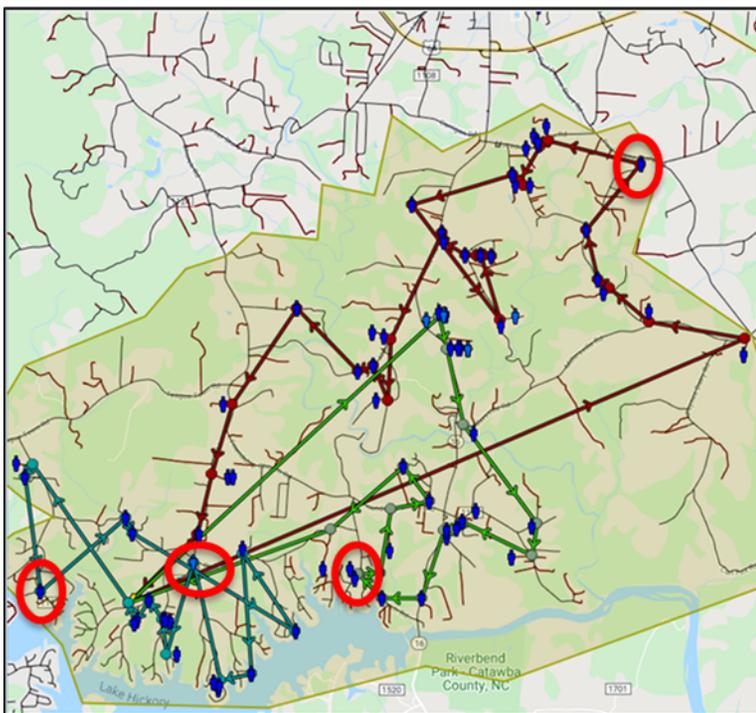
*Set up these batches during the day and set them to run overnight. Depending on the size of your LEA, this process may take several hours to fully remove the Group A and B information.*

*Group A and B Datasets would be ready to begin work the following morning.*



# Preparing for Plan B School Bus Routes in TIMS

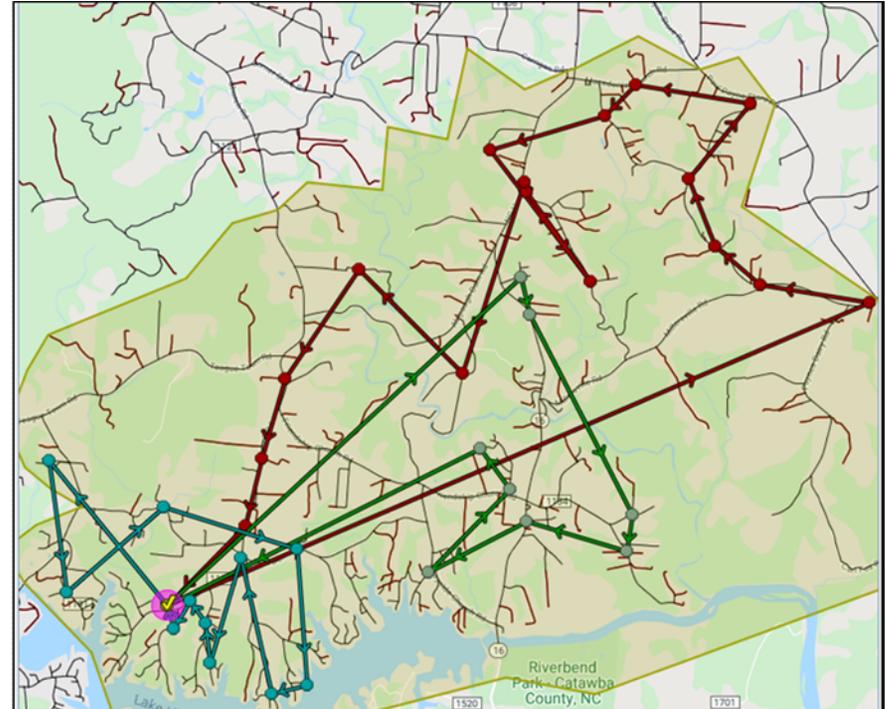
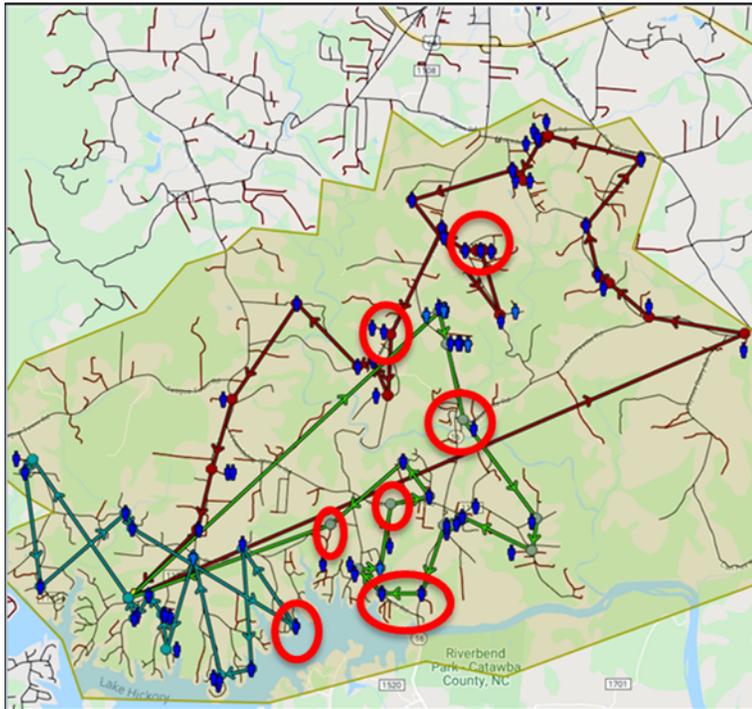
## Reviewing Deassignment Changes to Runs



*Full Runs from LIVE Data are on the left, with the Empty Stops that were removed circled on the screen. The EMU Batches have successfully modified Runs to get you to a better starting place much quicker.*

# Preparing for Plan B School Bus Routes in TIMS

## Reviewing Deassignment Changes to Runs

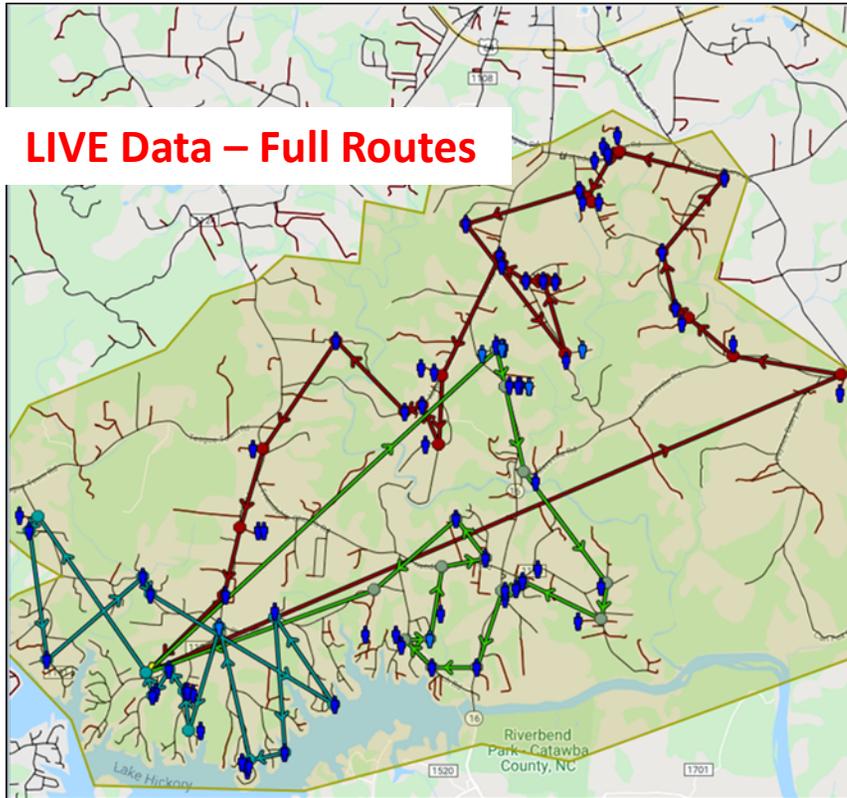


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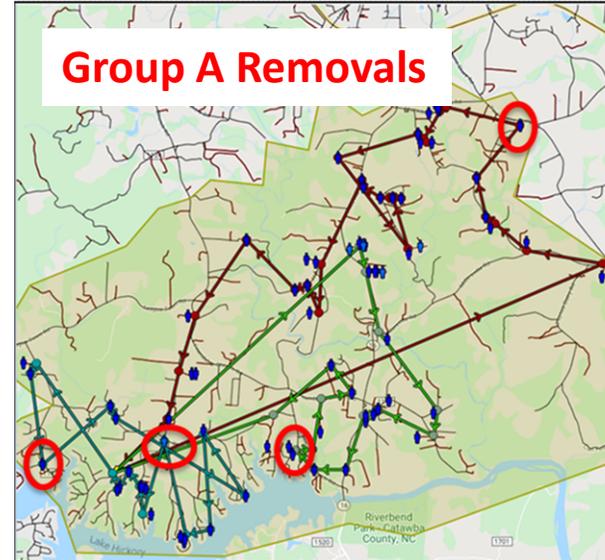
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## Reviewing Deassignment Changes to Runs

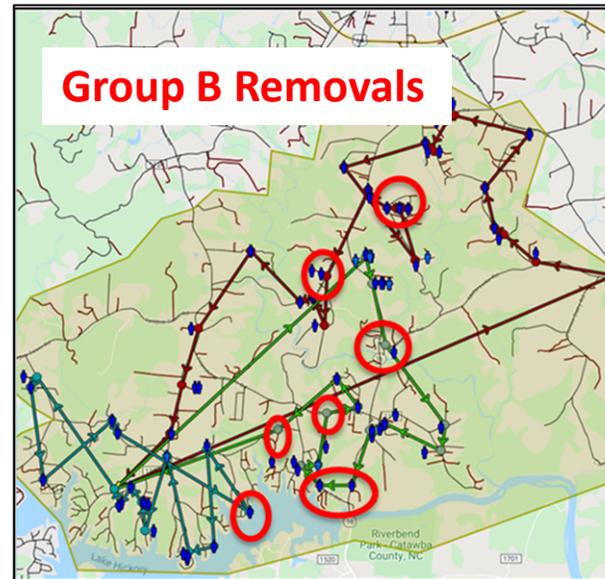
**LIVE Data – Full Routes**



**Group A Removals**

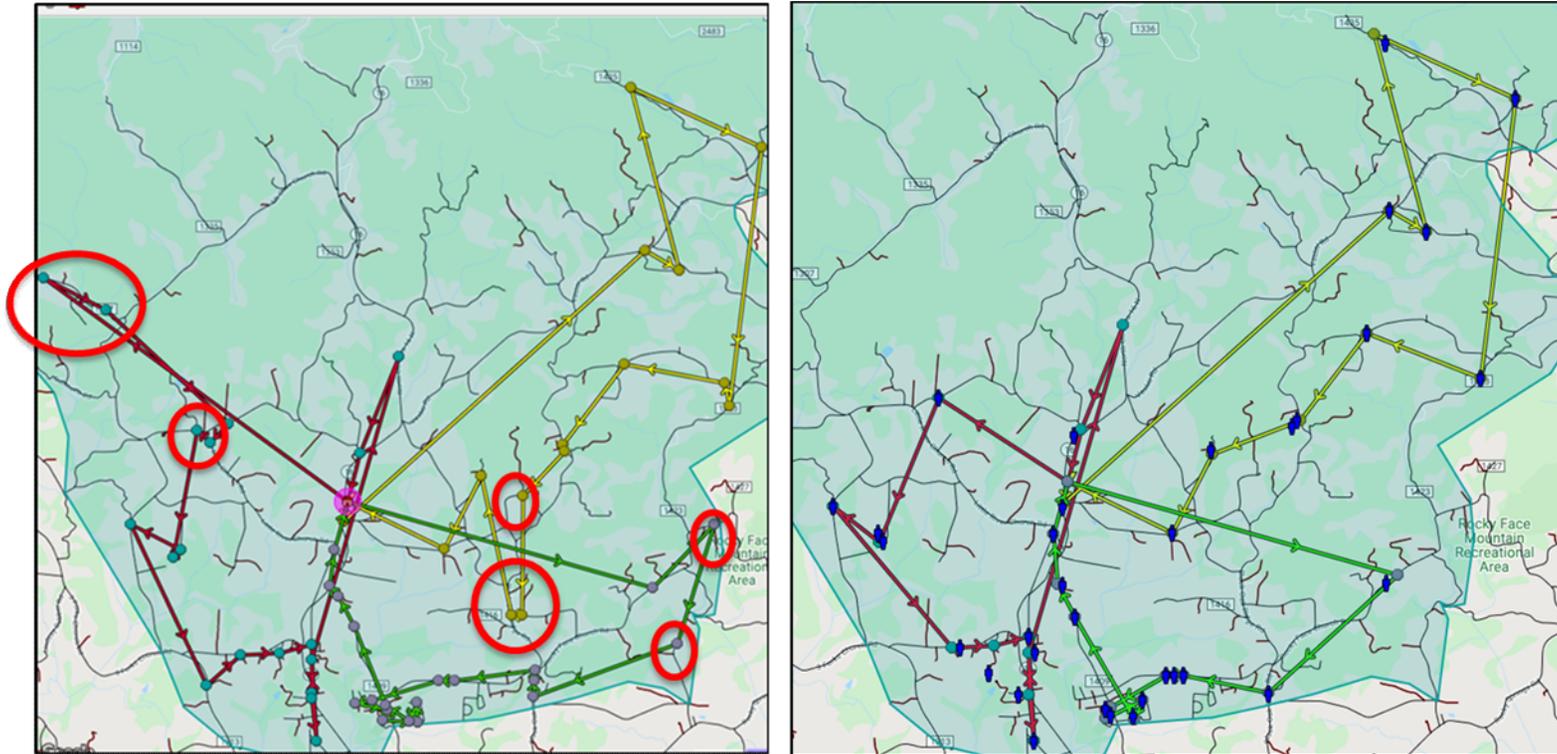


**Group B Removals**



# Preparing for Plan B School Bus Routes in TIMS

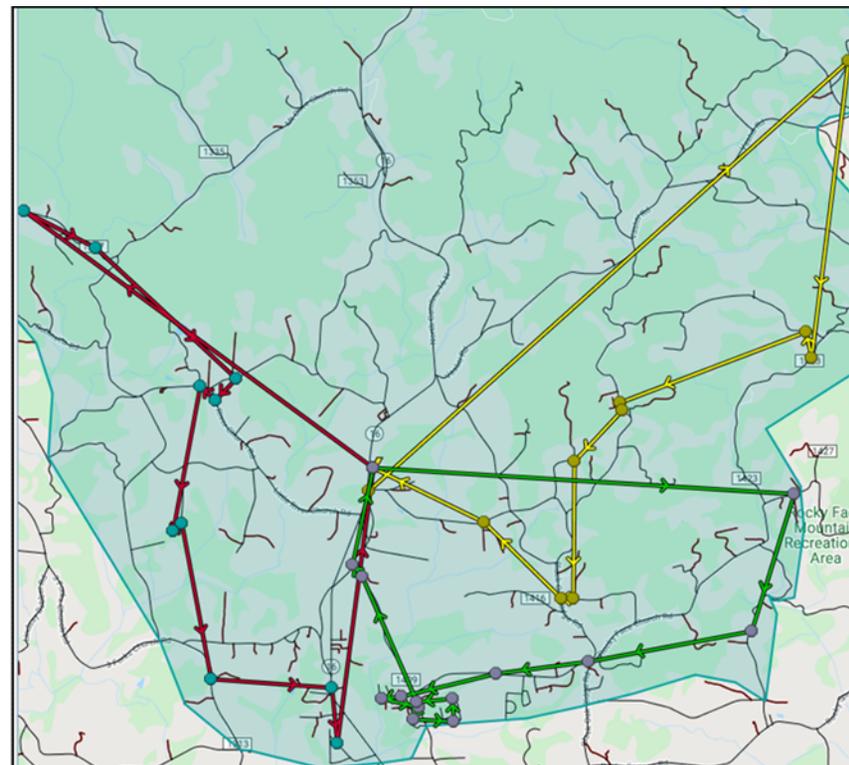
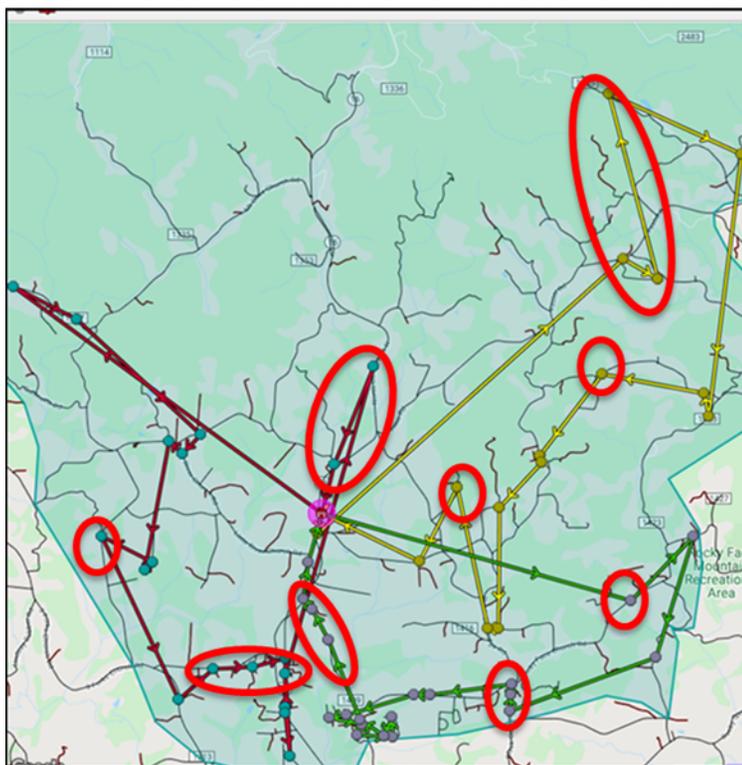
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# Preparing for Plan B School Bus Routes in TIMS

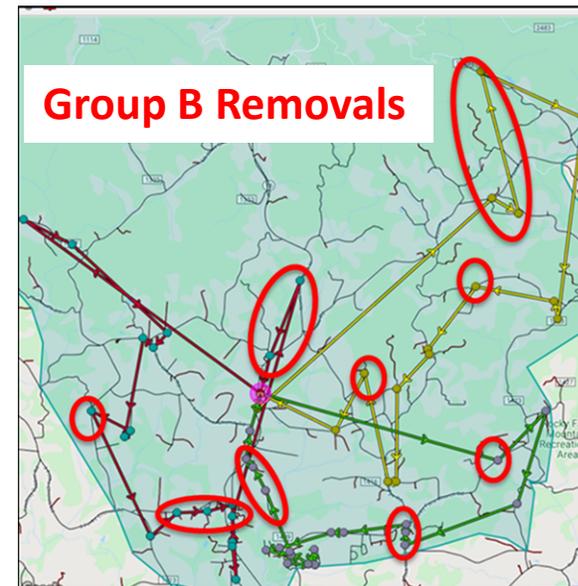
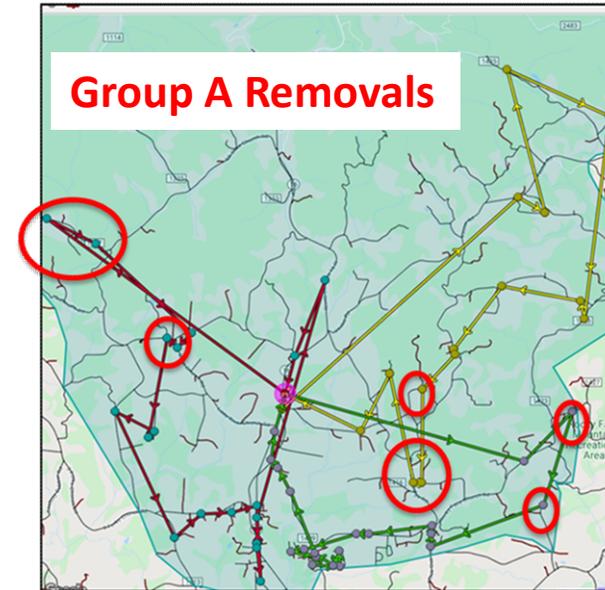
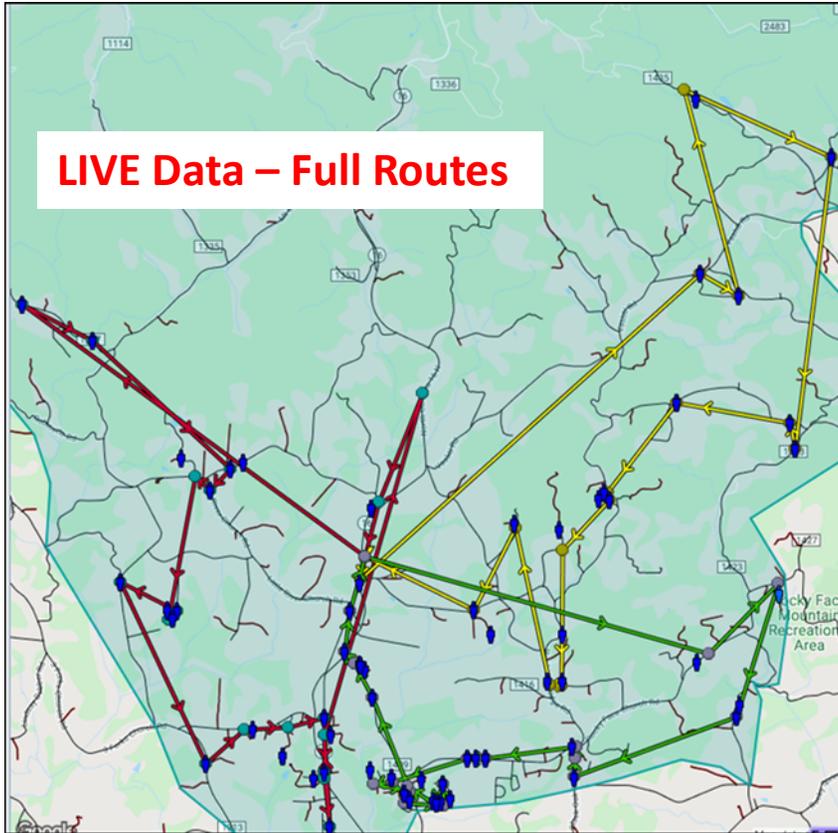
## Reviewing Deassignment Changes to Runs



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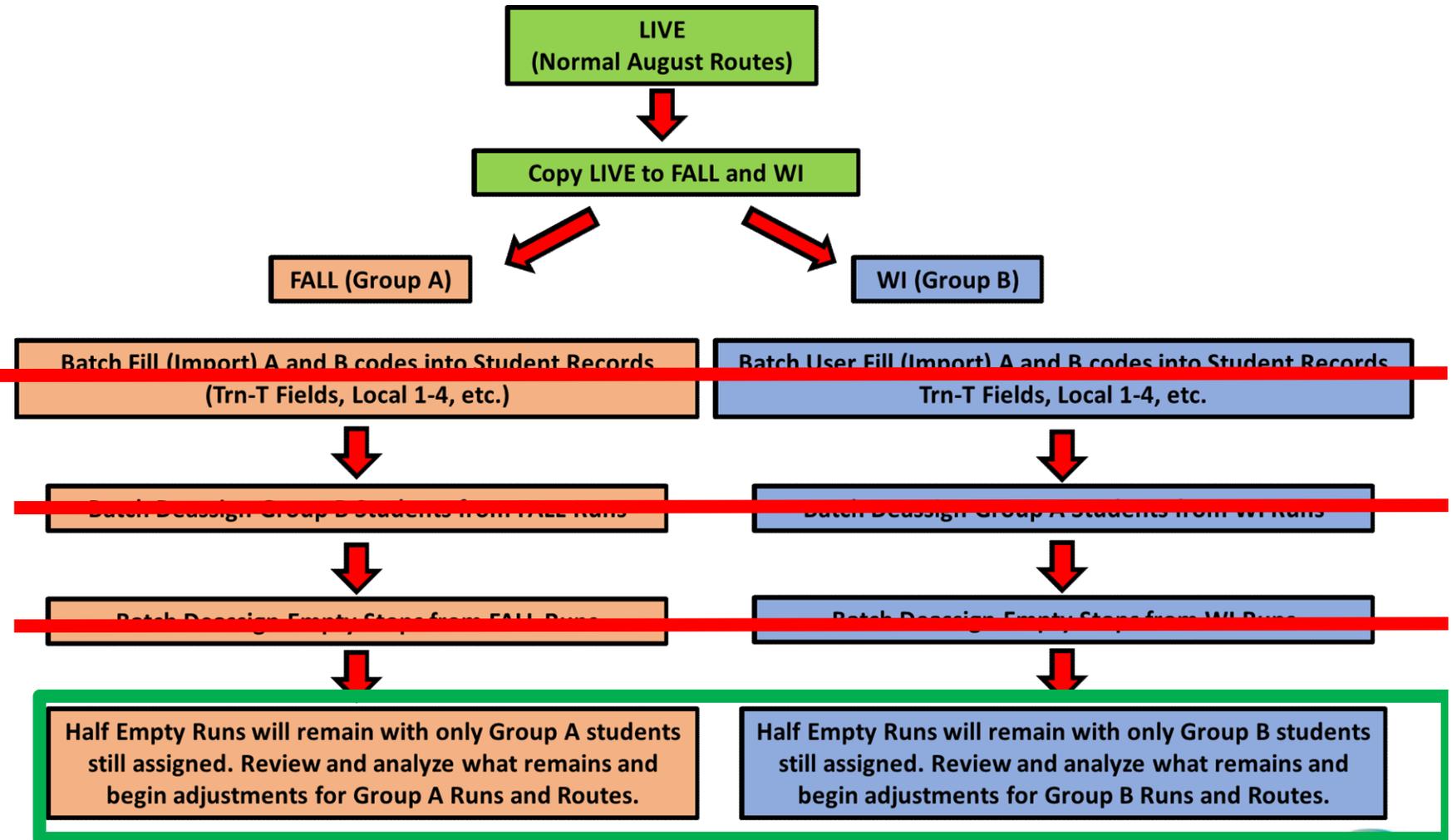
# Preparing for Plan B School Bus Routes in TIMS

## Reviewing Deassignment Changes to Runs



# Preparing for Plan B School Bus Routes in TIMS

## Using LIVE Data to Create A and B Databases for Plan B Bus Routes



*Developing  
Plan B Bus Routes  
for  
Group A and B Students*

# Preparing for Plan B School Bus Routes in TIMS

---

## Evaluating Plan B Routing Requirements

- Ridership Counts by Schools and Neighborhoods
  - Determine Number of Bus Runs Required (Loads)
- Improving Bus Runs
  - Resequencing Stops
  - Moving Stops Between Runs
  - Creating More Runs
- Designing Shorter Runs to Improve Route Pairing
- Analyzing School Supervision Time Required Before/After Bells

# Preparing for Plan B School Bus Routes in TIMS

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## Evaluating Plan B Routing Requirements

- Ridership Counts by Schools and Neighborhoods
  - Determine Number of Bus Runs Required (Loads)

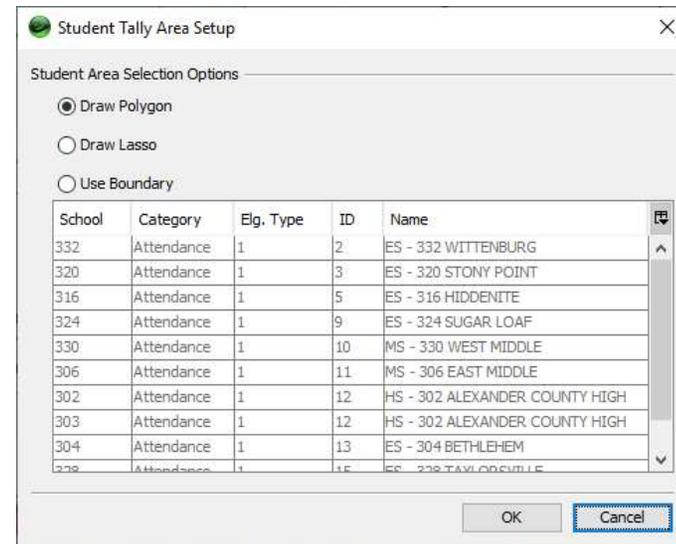
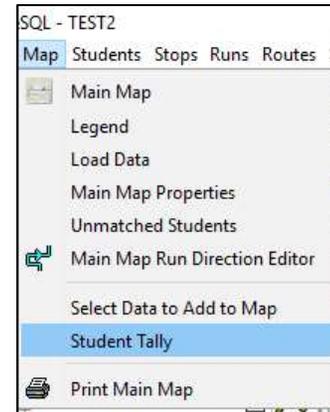
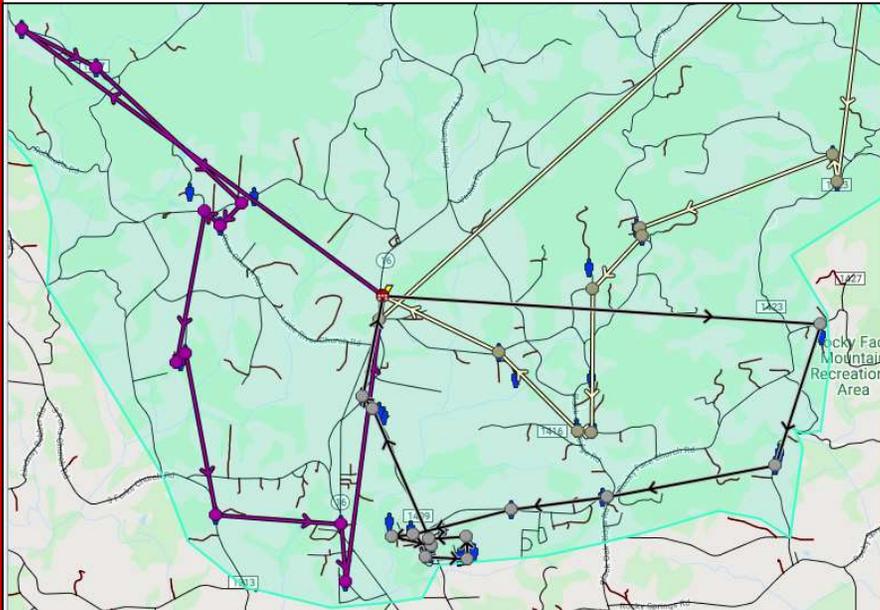
There are multiple methods to display and tally rider counts in TIMS.

- eSQL Student Tallies
- Student Worklists by School, Grade, AB Codes, Y/N Info, etc.
- Student Worklists linked to a Boundary in MARIS Worklists
- Student Tallies within Boundary Planning
- TIMS Reports

# Preparing for Plan B School Bus Routes in TIMS

## eSQL Student Tallies

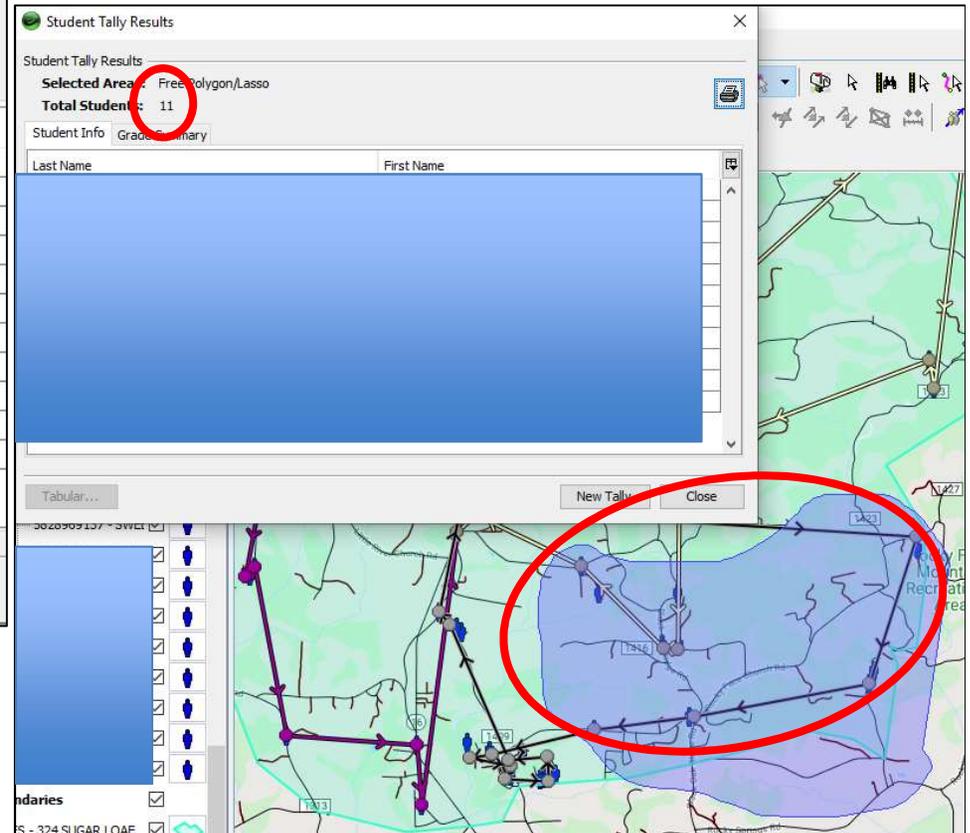
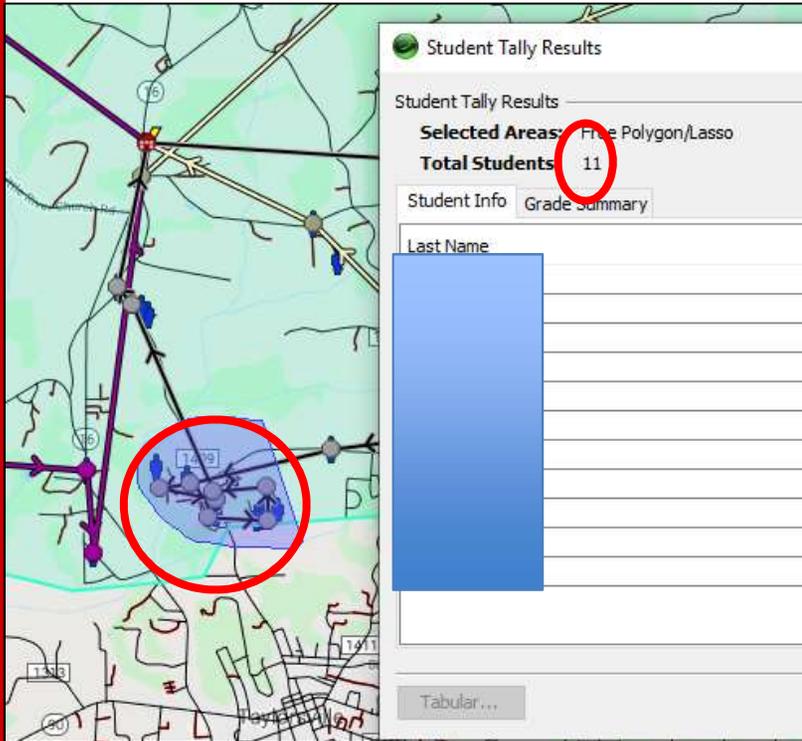
*With students displayed on the screen,  
Go to Map > Student Tally to count  
students by Boundary or by Drawing a  
Polygon or Lasso.*





# Preparing for Plan B School Bus Routes in TIMS

## eSQL Student Tallies

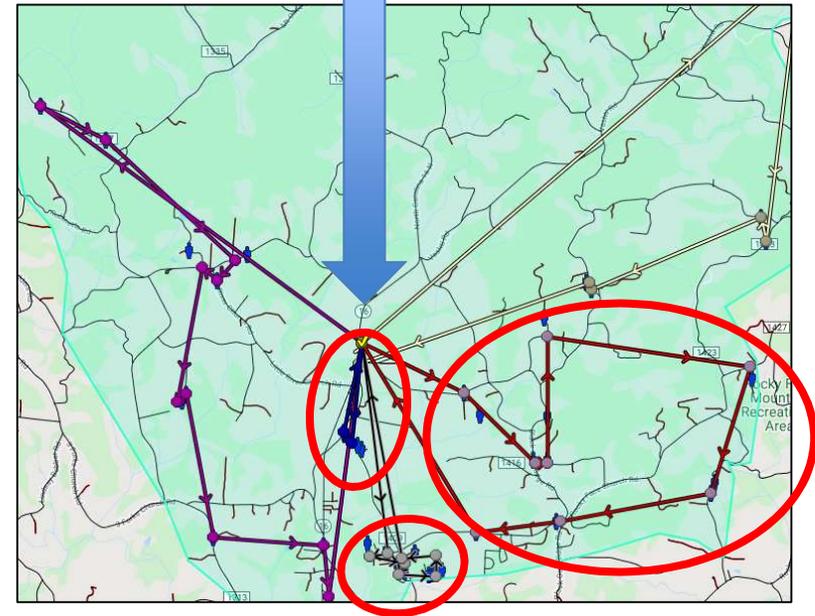
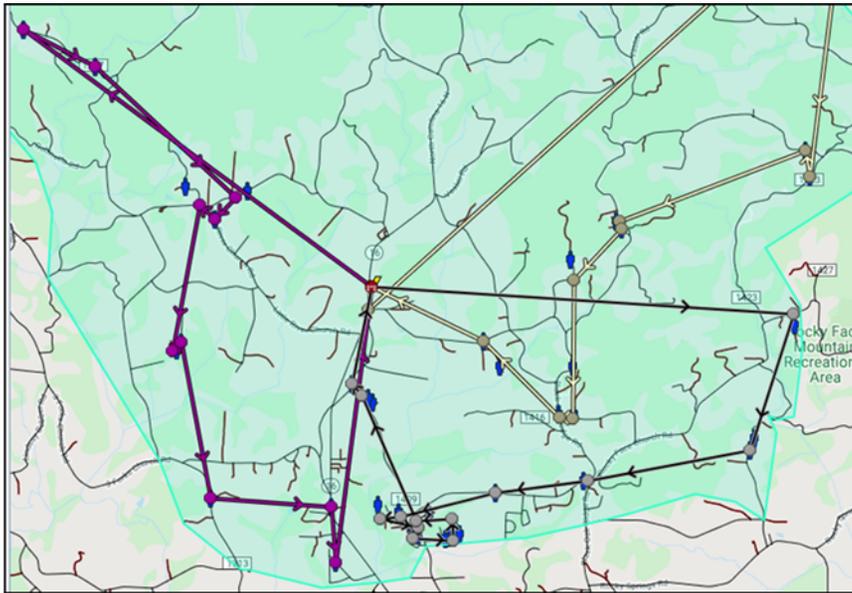


*There are 11 students in each of these areas. Lets make these collection of stops into two different Bus Runs.*

# Preparing for Plan B School Bus Routes in TIMS

*After getting both of those runs down to 11 students, there were two unassigned stops close to the school with 3 students assigned. This was made into its own run as well.*

*Group B Runs have increased from 3 to 5 by moving stops to new runs. Now examine if the 5 runs can be paired with the same 3 Buses, with two buses doing a double-load to school.*



# Preparing for Plan B School Bus Routes in TIMS

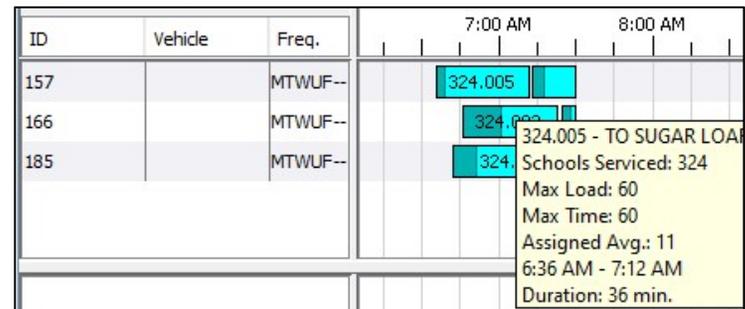
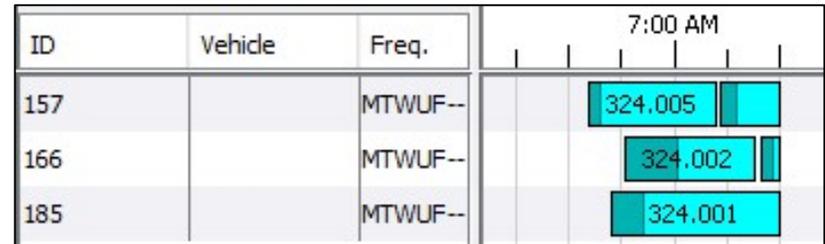
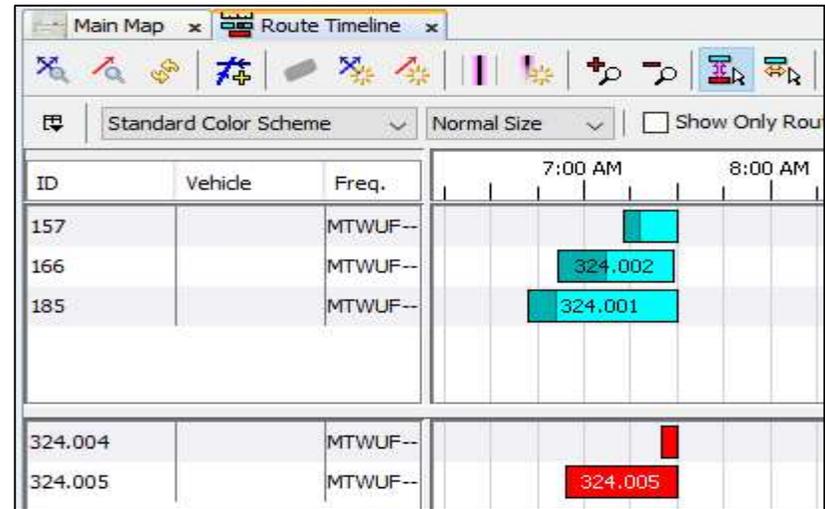
*Under Route Timeline, you can load the current runs and routes for this school.*

*Notice the new unassigned runs that were just created: 324.004 and 324.005*

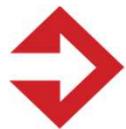
*In looking at the runs on a route, Bus 157 has the shortest Group B run and looks best to pair with the longer of the new runs, 324.005.*

*The 3 student run, 324.004 looks best to pair with the run on Bus 166. Assign the new runs to the routes and then examine the early drop off time. School Staff may need to be present earlier and available to supervise children while buses perform double-loads.*

*Bus 157 shows the 1<sup>st</sup> Load (Run 324.005) should arrive around 7:12 AM, which is 18min earlier than the current early arrival of 7:30AM. Transportation staff should communicate and coordinate*



# *Similar Process via Launchpad TIMS*



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# Preparing for Plan B School Bus Routes in TIMS

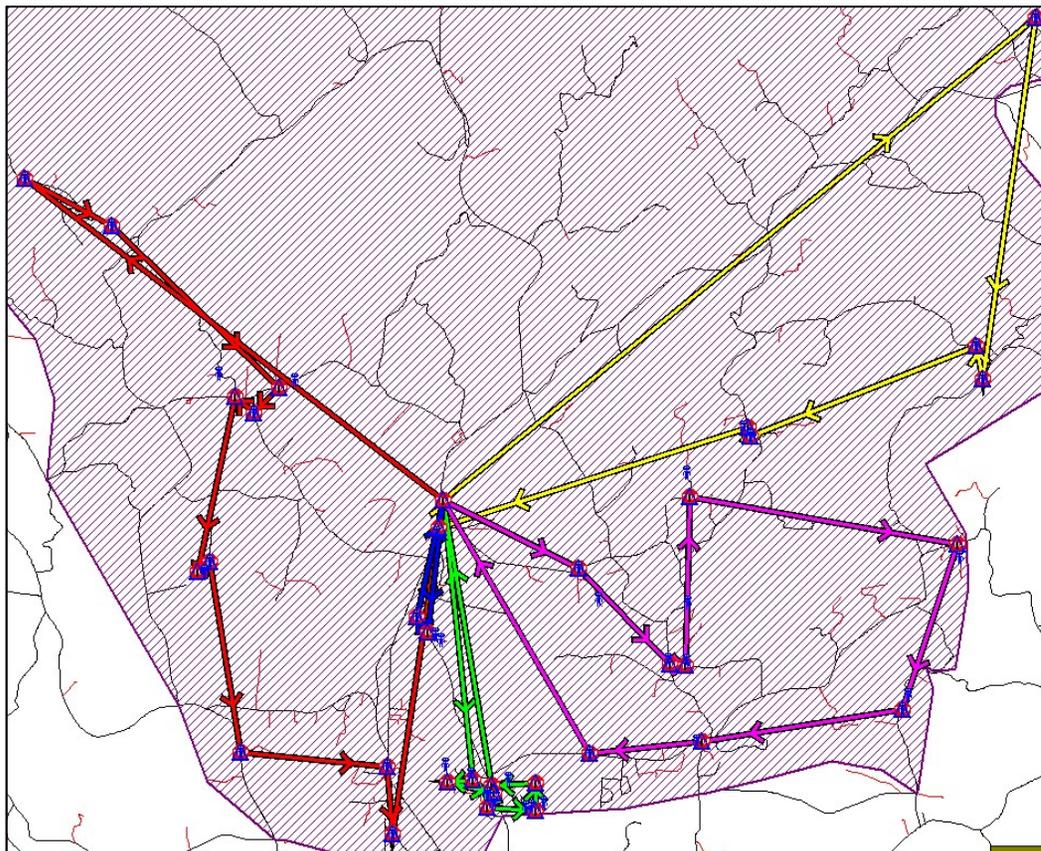
*Not every LEA has eSQL and even those that do may never have used it or may not be as comfortable using eSQL compares to Launchpad TIMS.*

*Let's look at how some of these tasks can be performed in Launchpad TIMS.*

*The quick Student Tallies in eSQL are not available in Launchpad TIMS.*

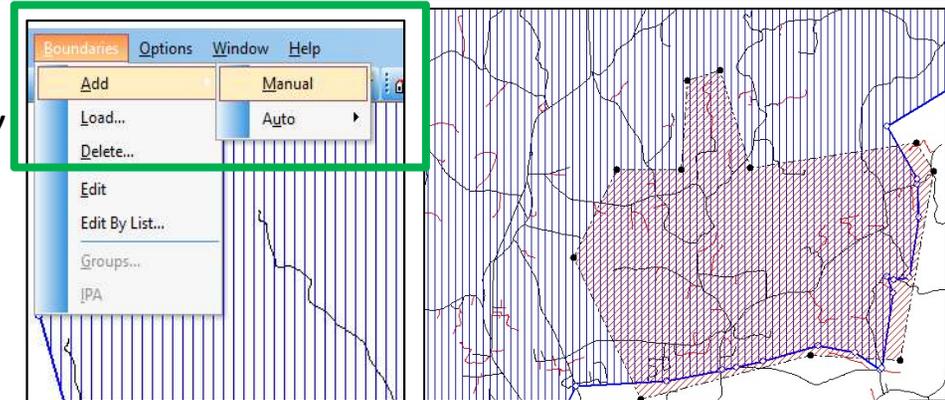
*These can be performed in Boundary Planning and is a skill taught in the BP TIMS Course.*

*There is another trick to do tallies by drawing a boundary in Maris and then running a Worklist in TIMS based on the Boundary*



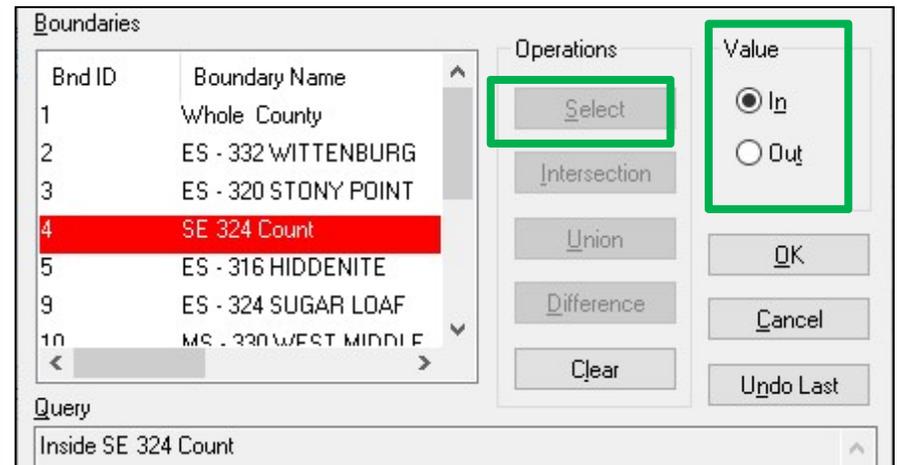
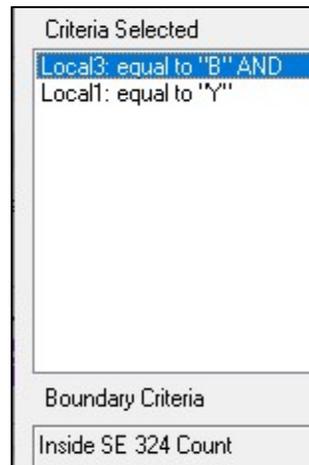
# Preparing for Plan B School Bus Routes in TIMS

*With Launchpad TIMS open, you can go into MARIS and create a new manual boundary. As soon as you Name and Save the Boundary, it is then immediately available in TIMS to use in a Worklist. I named the new red boundary*



*“SE 324 Count”*

*Worklist Criteria  
Local 3 Equals B  
AND  
Local 1 Equals Y*



*Then go to Boundary  
Highlight the Boundary  
Choose IN and Select  
to add to the Worklist Criteria*

# Preparing for Plan B School Bus Routes in TIMS

*After displaying only the students found via the Worklist*

*Local 1 equals Y*

*AND*

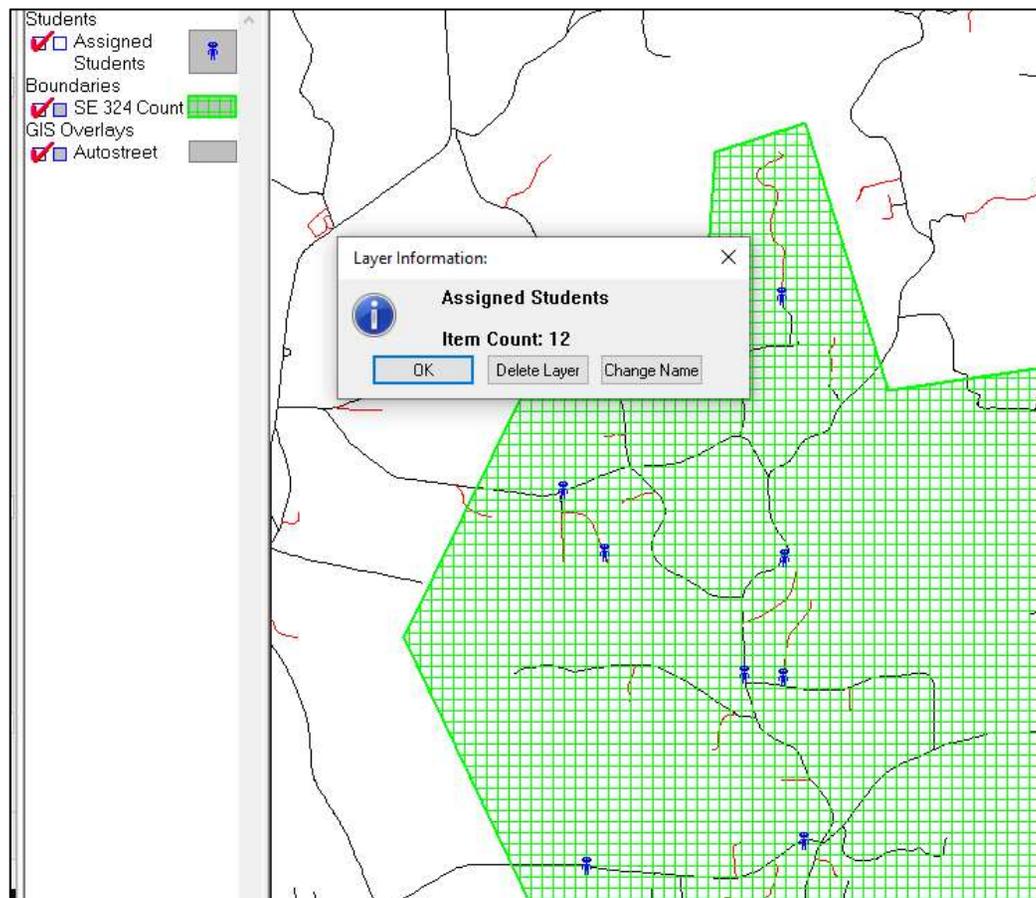
*Local 3 equals B*

*AND*

*Inside SE 324 Boundary*

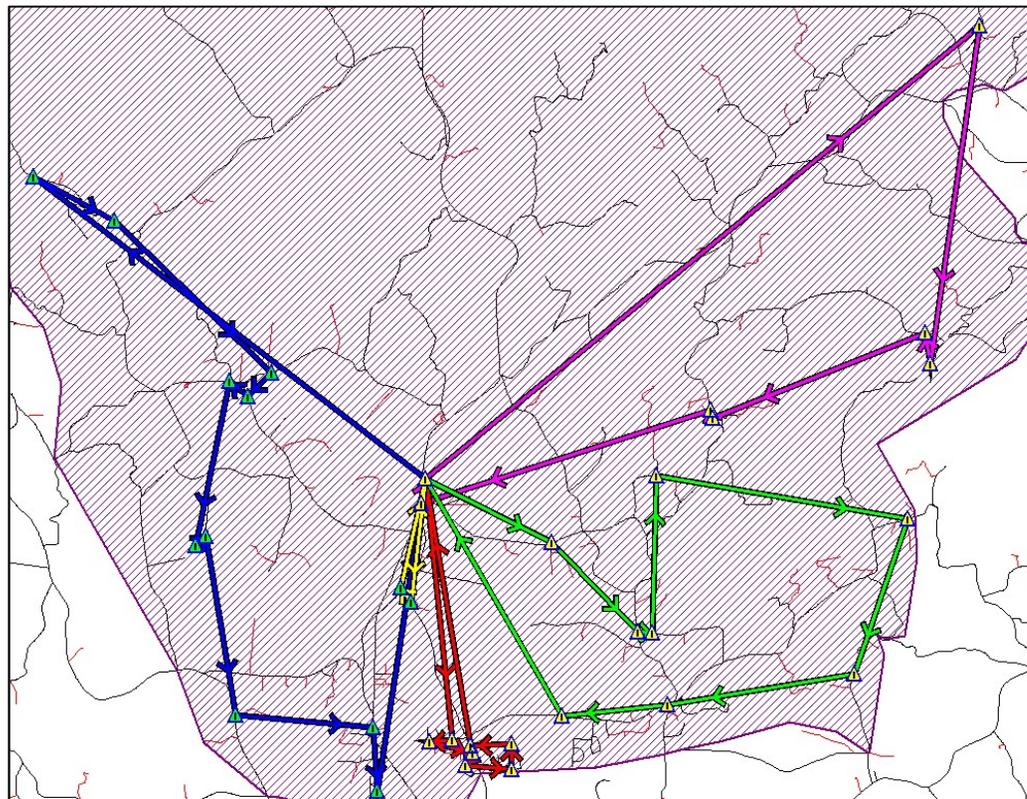
*You can then left click on the Students Labels in the Legend to get a Quick Count.*

*It not ideal but is a workaround if you have never taken a Boundary Planning Class.*



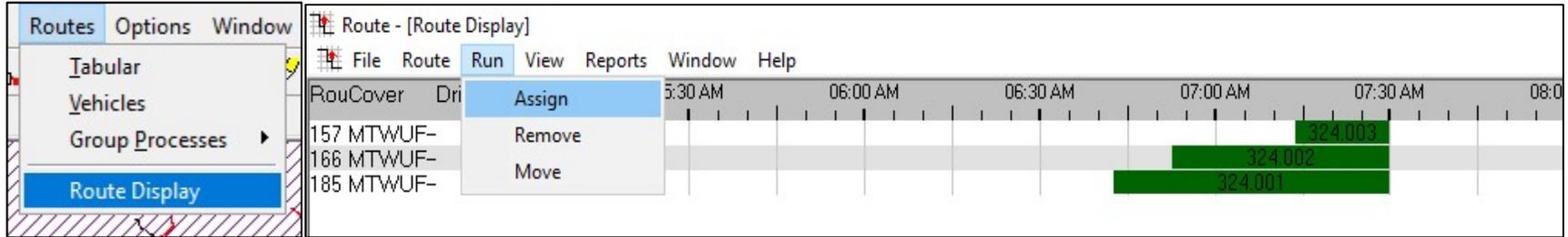
# Preparing for Plan B School Bus Routes in TIMS

*After creating new runs and juggling stops as needed to reduce loads in Launchpad TIMS, some of the same Route Timeline tricks can be performed to examine new Bus Run pairings for double loads and the supervision time that may be needed at the school level.*



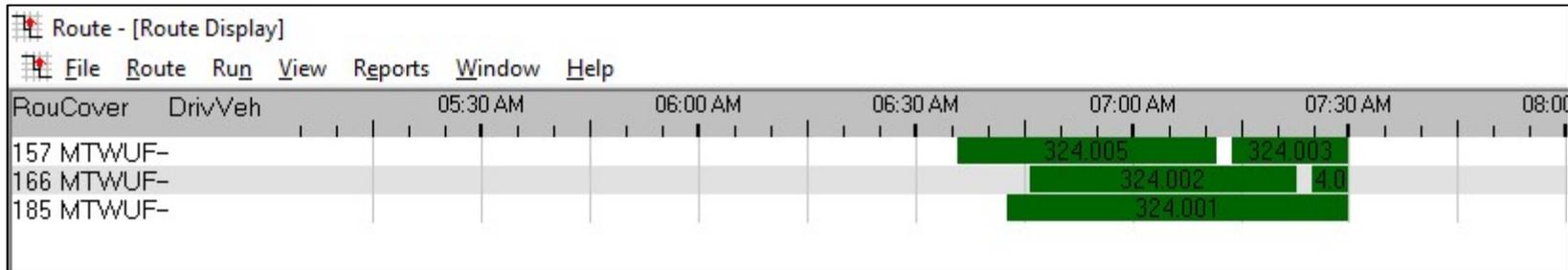
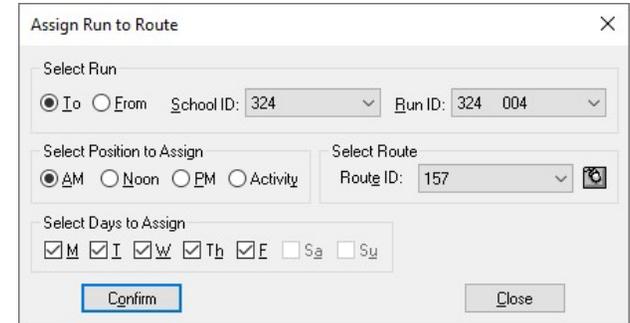
# Preparing for Plan B School Bus Routes in TIMS

Go to Routes > Route Display and load the Routes you want to work with.



Go to Run > Assign to add the new runs to the existing Routes

They will default to the 7:30 Dropoff Time and overlap with Current Runs. Go to Routes > Edit Times and adjust the longer first load to drop off before the shorter second load in the AM. Launchpad Results show 7:12am would be the early drop-off Time as well.



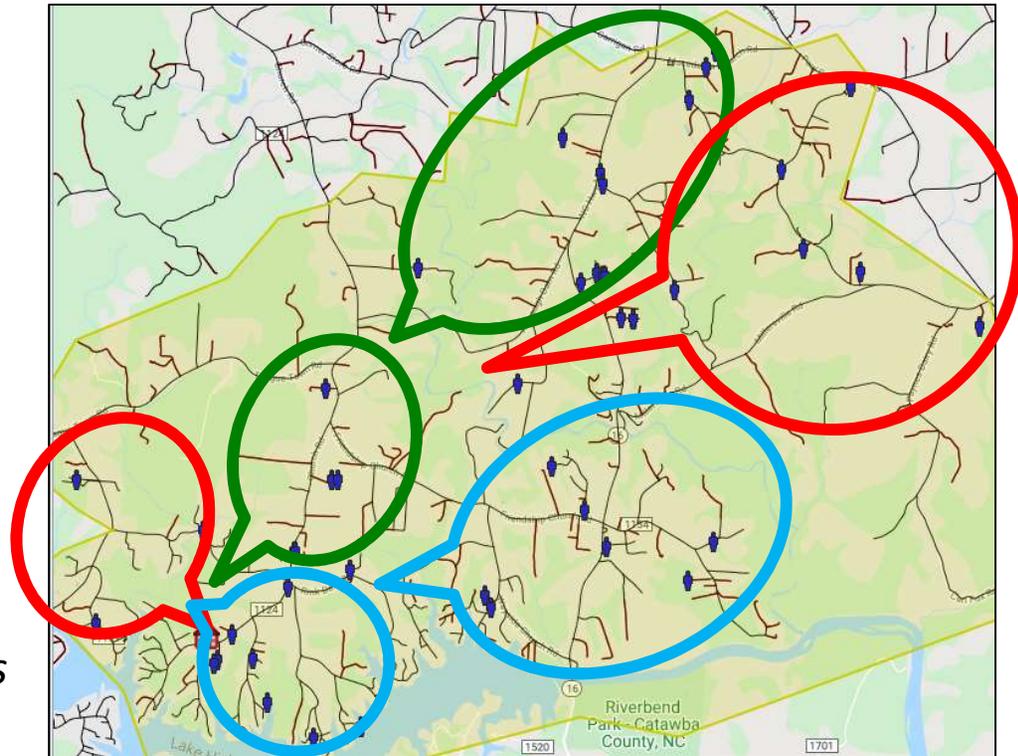
# Preparing for Plan B School Bus Routes in TIMS

Design Tips for Runs to help with Route pairing for double loads.

Try to find groups of stops close together that meet capacity requirements.

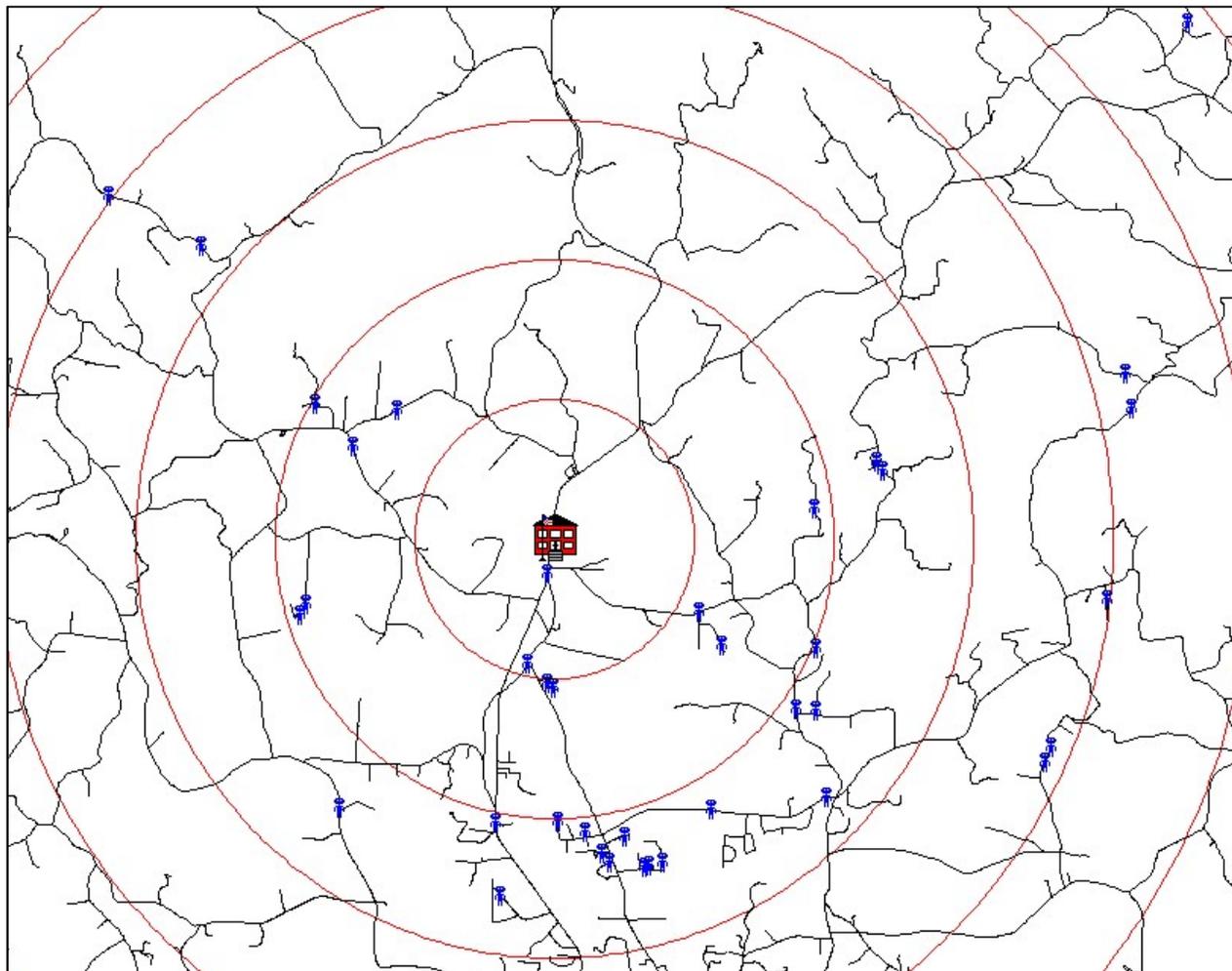
*Think about the stop groupings in terms of time and distance from school. Try to develop short runs for students living closer to school and longer, medium length runs to help with pairing.*

*In this example, the different color bubbles represent how 3 Runs could be made into 6 Runs to accommodate social distancing guidelines.*



# Preparing for Plan B School Bus Routes in TIMS

*It may help to think about the School as the bullseye of a target, with students in the inner circles better suited for short quick runs, while students in the outer circles may be on the long, medium length runs.*



# Preparing for Plan B School Bus Routes in TIMS

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## Coordinating with GPS Vendors and Parent App providers.

If you end up keeping one Database for the A Group and a separate database for the B Group, you need to coordinate with GPS Vendors so they know which databases to pull from each night.

- Group A - FALL Data runs on Monday and Tuesday,
  - GPS pulls Fall Data on Sunday Night and Monday Night.
- Group B – WI Data runs Thursday and Friday
  - GPS pulls WI Data on Wednesday Night and Thursday Night.

This would make Here Comes the Bus and GPS Comparative Analysis function correctly during irregular days of attendance.

# Preparing for Plan B School Bus Routes in TIMS

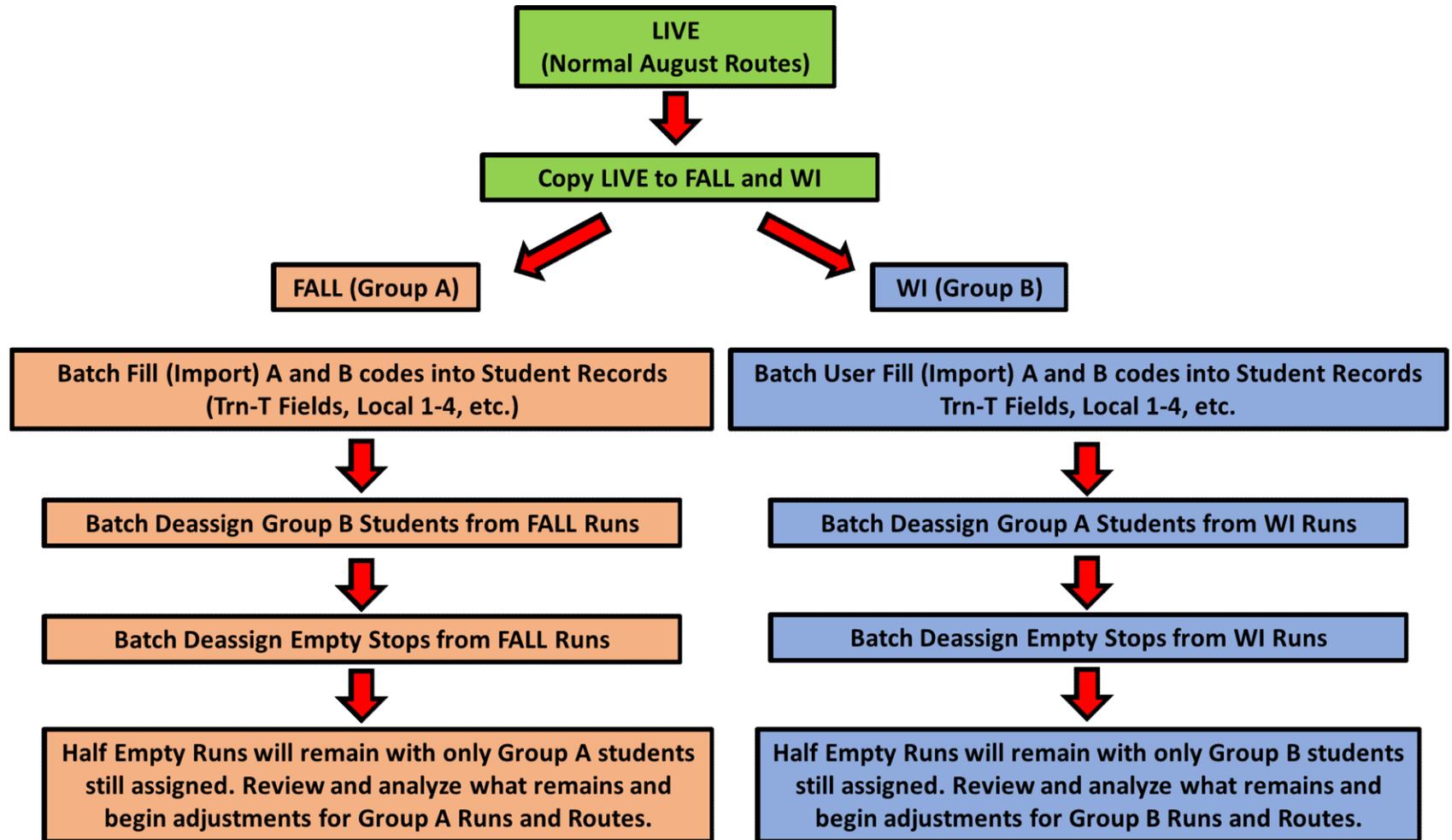
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## Session Recap

- Using a Single Database for Each Group of AB Students
- Managing A and B Databases
  - Importing Special Plan B Codes to Identify AB Bus Riders
    - EMU Process - Batch Fill User Field
    - EMU Process - Deassigning Students from A and B Databases
    - EMU Process - Deassigning Empty Stops from A and B Databases
- Evaluating Plan B Routing Requirements
  - Ridership Counts by Schools and Neighborhoods
  - Number of Bus Runs Required (Loads)
  - Improving Bus Runs
    - Resequencing Stops, Moving Stops Between Runs, Creating More Runs
    - Designing Shorter Runs to Improve Route Pairing
  - Analyzing School Supervision Time Required Before/After Bells
- Coordinate A and B Database Info with GPS Vendors

# Preparing for Plan B School Bus Routes in TIMS

## Using LIVE Data to Create A and B Databases for Plan B Bus Routes



Questions or Comments?

# Preparing for Plan B School Bus Routes in TIMS

Questions or Comments?

*June 2020*

Questions or Comments?