

Assessing the Current LA-Plan TRAN GUI

Technical Report

Matthew P.H. Taylor
August, 2013
Department of Economics
University of California, Riverside

Introduction

Effective design of the RELU-TRAN GUI is a demanding task, requiring a careful balance for both the GUI's capabilities and its ease of use. First, for its intended uses, the GUI needs to provide a breadth of capabilities and substantial user control. However, given the language in which GUI's are written it's proper functioning is sensitive to the computing platform – increasing the scope of the GUI's technical capabilities increases the risk that some attributes may work well with one computer but not with another. Second, the GUI needs to be suitable for a variety of user types, from the technical novice to the expert programmer. Maintaining relative ease of use further complicates the task of providing advanced capabilities - increased sophistication of the GUI's attributes requires increased sophistication of user knowledge and ability.

The purpose of this report is to systematically assess the most recent prototype of the LA-Plan TRAN GUI, providing feedback for the next stages of development. The assessment asks two questions. First and foremost, are the GUI and its features functioning properly? Second, what changes might make the GUI easier and more reliable to use? While the former can be answered using objective criteria, the latter is, at least in part, dependent upon the subjective judgment and experience of the user. This assessment's feedback was provided by one intermediate user, familiar with the use of GUI's but not with their development or the underlying programming, conducting tests of the GUI's functions.

The remainder of the report is organized as follows: we first introduce the assessment methodology, followed by the presentation of results from objective testing of the GUI's attributes, and conclude with discussion regarding the ease of use of those attributes and recommendations for next stages of development.

Assessment Methodology

The assessment of the GUI began by implementing a series of model runs that vary the two user inputs currently available on the GUI. The model output was then recorded for 5 of the 692 available interaction arcs, each of which contains the data on transportation interactions from one distinct model zone to another. The data, obtained by selecting each arc directly on the GUI's map, serves as the basis for assessing the functionality of the individual GUI attributes and provides a basis for assessing the overall functionality of the GUI and its communication with the underlying TRAN model.

The five interaction arcs used in the assessment were chosen to capture some of the geographic and demographic heterogeneity existing in the model of Southern California. The arcs chosen and their geographic descriptions are as follows (see Appendix Table A1 for more details):

- Arc 1, linking nodes 1 and 5, runs along I-5 in Los Angeles, south of a major freeway interchange;
- Arc 23, linking nodes 6 and 120, captures the interaction between Inglewood and Florence, south of Downtown Los Angeles;
- Arc 29, linking nodes 8 and 108, connects Beverly Hills with Downtown Los Angeles;
- Arc 318, linking nodes 98 and 91, is a long distance city-to-city arc connecting San Diego with Temecula;
- Lastly, arc 571, linking nodes 173 and 86, connects the relatively suburban model zones of Riverside and East Riverside.

While not a representative sample (statistically speaking), these arcs begin to capture some of the heterogeneity present in the model.

Two user inputs are available in the current version of the GUI - gas price (dollars per gallon) and system-wide aggregated capacity of the transportation network (applies a percentage to existing specified aggregate capacity to all interaction arcs). A total of six models were run: a baseline model, three models that changed gas prices while maintaining baseline aggregate capacity, and two models that held gas prices at baseline levels while changing aggregated capacity. The baseline model uses 100% of baseline aggregated capacity with a fuel price of \$1.60 per gallon. The alternative gas price specifications were \$0.16, \$4.00, and \$160.00 per gallon and the alternative aggregated capacities were 50% and 200% of baseline capacity.

The functionality of the TRAN GUI is of primary importance. This includes testing the functionality of each link, input field, and button available to the user and testing the overall model, i.e. is the TRAN model responding to the user-specified inputs, solving for a new steady state, and correctly displaying the model results. The specific GUI attributes being tested and their respective functions are:

- “Introduction to the model” link – opens a webpage with a basic description of the RELU-TRAN model that provides links to more detailed papers;
- “Open output file” link – opens a webpage that contains output from the latest successfully run model, savable as a .txt file;
- Gas price input – allows the user to specify the gas price to be used in the next model run;
- System-wide aggregated capacity input – allows the user to apply a percentage change to existing aggregated capacities across all arcs for the next model run;
- Individual arc aggregated capacity input – allows the user to specify and save the aggregated capacity of an individual interaction arc for the next mode run;
- “Run the model” button – initiates a model run utilizing the user-specified inputs;
- “Reset gas price and the percentage” button – resets the gas price and aggregated capacity to baseline inputs of \$1.60 per gallon and 100%, respectively;
- “Reset aggregated capacity on all arcs” button – resets the aggregated capacity to base values for all interaction arcs, including any individual arc changes saved by the user;
- TRAN specific GIS layer toggle – allows the user to turn on and off four map layers, including the road nodes, road links, interaction between zones (the arcs), and the model zone boundaries;

- Choice of model attribute displayed – allows the user to display various model attributes, including drive speed, congestion level, and flow of trips, for each arc;
- Attribute classification method – allows the user to choose the method for classifying the model attribute being displayed, i.e. using quantiles, natural breaks, standard deviation or equal intervals to classify attributes.

The six initial model runs are used as a baseline to test if the individual functions are working as intended. After each of the six initial model runs the data was recorded for each of the five arcs. This data was used as a baseline to test if the GUI's functions were working as intended – each of the GUI functions were individually tested to see if the post-change model results were sensible and as expected. In addition, aggregate model output was recorded for each model-run, allowing for further assessment of the workings of the underlying TRAN model.

This assessment was also concerned with the usability of the GUI. Objective criteria for assessing the usability of the model were not specified before initiating model runs. Rather, the assessment process involved extensive interaction with the GUI, providing opportunity to reflect and comment on the intuitiveness and ease of use of the GUI to provide constructive feedback and direction for next stages of development.

Lastly, when testing the GUI there is uncertainty regarding whether any encountered difficulties stem from an issue with the GUI itself, a shortcoming of the machine being used to conduct the test, or compatibility between the two. Similarly, the choice of internet browser being used to run the GUI may affect the GUI's performance. Thus, five different computers were used to conduct the assessment: one PC laptop running Windows 8, two PC desktops running Windows XP and Windows 7, one MAC laptop running OS X 10.8.4 (Mountain Lion), and one MAC desktop running OS X 10.7.5 (Lion). On each machine the GUI was tested using both Mozilla Firefox and the systems' default internet browsers (Internet Explorer and Safari for PC and MAC, respectively).

Test Results

Overall, the GUI is functioning quite well. Most importantly, the GUI appears to be accepting user inputs, successfully conducting TRAN model runs, and providing the user with the resulting output in both graphical and text format. The six initial model runs indicate that the GUI is yielding reasonable results (see Appendix Tables A2-A6 for arc specific results). Decreasing the gas price from baseline to \$0.16 per gallon decreased drive speeds, increased congestion, and increased the flow of trips for four out of five arcs. The exception was arc 1, a Downtown Los Angeles link, which showed opposite effects. As substitution effects may cause a reduction in gas prices to result in reduced usage of some elements of the transportation network, this is not an implausible result.

Changing gas prices to \$4.00 and then \$160.00 led to increasingly large increases in drive speeds, increasingly large reductions in congestion levels, and increasingly large reductions in the flow of trips for arcs 29, 318, and 571. Arcs 1 and 23 had mixed impacts. For all arcs, reducing the system's aggregated capacity to 50% of baseline led to reduced drive speeds and increased congestion levels, whereas increasing aggregated capacity produced the expected opposite impacts. The direction of the impacts on the flow of trips was mixed, again presumably due to substitution effects.

The plausibility of these model results was further supported by the model runs' aggregate data. This aggregate data was obtained from the output files that the GUI provides and was verified by cross-referencing the arc specific output collected from selecting arcs on the GUI map itself. Tables 1 and 2 below display key variables from changing gas prices and aggregated capacity, respectively.

The tables show that increasing the cost of fuel yields reductions in fuel per trip, miles per trip, average trip time, and driving speed. Further, price increases reduce the number of trips between model zones, total fuel used, and total miles driven. The effects are system-wide changes to aggregate capacity are also in line with expectations. Cutting the capacity in half leads to increased average trip times, decreased driving speeds, a reduction in the flow of trips and the amount of fuel used, and an increase of total trip time. Doubling the system's capacity has the expected reverse effects.

Table 1. Model Results from Changes in Gas Price (100% Aggregate Capacity)

Gas Price (per gallon)	<i>\$0.16</i>	<i>\$1.60</i>	<i>\$4.00</i>	<i>\$160.00</i>
FUELperAutoTrip (Gallon)	0.428	0.426	0.423	0.401
VMTperAutoTrip (Mile)	11.039	10.980	10.898	10.391
AveTTIME (Minutes)	22.402	22.368	22.334	23.177
TSPEED (MPH)	53.921	53.776	53.530	49.306
Total Flow of Trips	80,447,753	80,032,186	79,442,272	76,001,010
TFUEL (gallons)	16,843,320	16,756,861	16,633,117	15,743,985
TVMT (miles)	433,911,008	431,604,154	428,387,160	408,473,804
TTIME (minutes)	880,614,819	879,277,303	877,918,701	911,059,868

Table 2. Model Results from Changes in Aggregated Capacity (Base Gas Price of \$1.60 per gallon)

Gas Price	<i>50%</i>	<i>100%</i>	<i>200%</i>
FUELperAutoTrip (Gallon)	0.414	0.426	0.444
VMTperAutoTrip (Mile)	10.982	10.980	10.989
AveTTIME (Minutes)	25.051	22.368	20.927
TSPEED (MPH)	47.475	53.776	58.598
Total Flow of Trips	79,093,821	80,032,186	81,015,597
TFUEL (gallons)	16,269,146	16,756,861	17,435,315
TVMT (miles)	431,681,851	431,604,154	431,978,767
TTIME (minutes)	984,710,350	879,277,303	822,614,935

Testing of the individual GUI attributes had positive but mixed results. Tables 3 and 4 contain summaries of the PC and MAC tests, respectively. In both tables a "Yes" indicates that the function is operating correctly, a "No" indicates that it is not working at all, and an "Issues" comment is reserved for those functions that are primarily functioning yet still have remaining glitches. The majority of the attributes worked properly across all machines and operating platforms.

All of the buttons, both reset buttons and the run model button, are working for all machines and all browsers. Similarly, the primary user inputs – gas price and system-wide aggregated capacity – are functioning as expected. The introduction link functioned as expected, opening a new tab in the browser that contained a brief introduction to the model and live links to more in-depth publications. The primary map display functions, the layer toggle and the attribute display choice, performed as expected

(each of these two functions failed to work on just one of the ten tests, however they always functioned properly when using Mozilla Firefox¹).

Table 3. GUI Attribute Functioning for PC Tests

Operating System	<i>Wind. 8</i>	<i>Wind. 8</i>	<i>Wind. XP</i>	<i>Wind. XP</i>	<i>Wind. 7</i>	<i>Wind. 7</i>
Web Browser	<i>Int. Exp.</i>	<i>Firefox</i>	<i>Int. Exp.</i>	<i>Firefox</i>	<i>Int. Exp.</i>	<i>Firefox</i>
Introduction Link	Yes	Yes	Yes	Yes	Yes	Yes
Output Link	Issues	Yes	Yes	Yes	Issues	Yes
Layer Toggle	Yes	Yes	Yes	Yes	Issues	Yes
Run Model Button	Yes	Yes	Yes	Yes	Yes	Yes
Reset Inputs Button	Yes	Yes	Yes	Yes	Yes	Yes
Reset Agg. Capacity Button	Yes	Yes	Yes	Yes	Yes	Yes
Attribute Display Choice	Yes	Yes	Yes	Yes	Yes	Yes
Attribute Class. Method	No	No	No	No	No	No
Gas Price Input	Yes	Yes	Yes	Yes	Yes	Yes
System Agg. Capacity Input	Yes	Yes	Yes	Yes	Yes	Yes
Arc Specific Agg. Capacity Input	No	Issues	No	Issues	No	Issues
Save Map	No	No	No	No	No	No

Table 4. GUI Attribute Functioning for MAC Tests

Operating System	<i>OS X 10.8.4 (Mountain Lion)</i>	<i>OS X 10.8.4 (Mountain Lion)</i>	<i>OS X 10.7.5 (Lion)</i>	<i>OS X 10.7.5 (Lion)</i>
Web Browser	<i>Safari</i>	<i>Firefox</i>	<i>Safari</i>	<i>Firefox</i>
Introduction Link	Yes	Yes	Yes	Yes
Output Link	Yes*	Yes	Issues*	Yes
Layer Toggle	Yes	Yes	Yes	Yes
Run Model Button	Yes	Yes	Yes	Yes
Reset Inputs Button	Yes	Yes	Yes	Yes
Reset Agg. Capacity Button	Yes	Yes	Yes	Yes
Attribute Display Choice	No	Yes	Yes	Yes
Attribute Class. Method	No	No	No	No
Gas Price Input	Yes	Yes	Yes	Yes
System Agg. Capacity Input	Yes	Yes	Yes	Yes
Arc Specific Agg. Capacity Input	Issues	Issues	Issues	Issues
Save Map	No	No	No	No

*To save the output file as text in Safari the user needs to save the page as 'page source,' which saves the page as a text file by default.

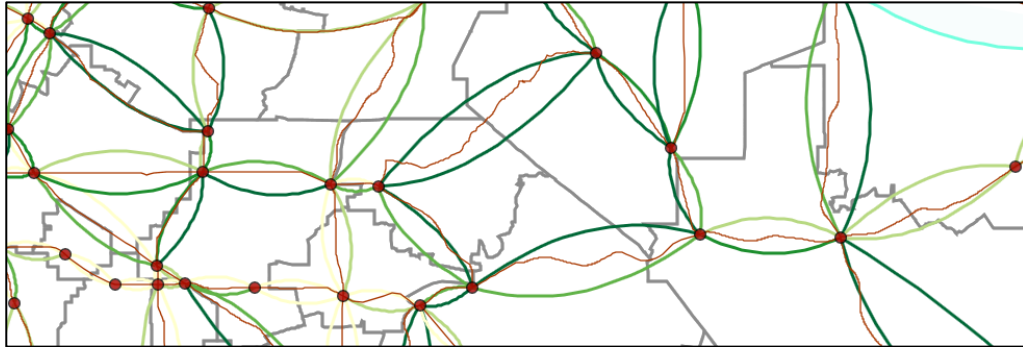
Two attributes failed to work correctly on any of the tests and appear to not be functional at this time. These are the choice of attribute classification method and the ability to save the map as an independent image. The choice of attribute classification method is the most recent addition to the GUI, designed to give the user additional control over the visual display of the model. While the drop-down

¹ On the Windows 7 PC using Internet Explorer the Road Links and Model Zones layers could not be made to display. On the Mountain Lion MAC the choice of attribute to be displayed would not open the drop-down menu when using Safari.

menu is opening properly, selecting any method other than the default display (quantiles) makes no changes to the map or to the map legend.

Similarly, the ability to store the GUI map as an independent image is not currently functioning. For those tests that allowed the browser to save the map, the resulting picture includes the TRAN-GUI layers but does not display the underlying map layers. Figure 1 provides an example of this, displaying the result from saving the image as a .bmp file. For this attribute to be of use the underlying layers need to be displayed to provide necessary geographic context.

Figure 1. Result from attempts to save the map as a figure



The final attributes assessed were the output file link and the ability to make changes to individual arcs. Although each of these attributes worked imperfectly, most of the difficulties disappeared when using Mozilla Firefox as a browser. The output link is expected to open a separate tab or window in the browser and display output from the most recent model run. This data should then be savable as a text file so that it can be accessed by spreadsheet or other data analysis software. These functions of the output file link worked as expected whenever Mozilla Firefox was used as the internet browser, regardless of what machine was used (PC or MAC).

When a machine had an issue with the output file link the problem was always the same. The first time the user runs a model the output link would work as expected. If the user then runs a second model (or more), clicking on the output link does not bring the user to the output from the most recent model run. Instead, clicking on the link opens up a new tab that shows the old model's output. To access the data for the most recent model run the user must refresh one of the output windows. So, if a user runs a model and opens the output file, then runs a second model and opens a second output file he is left with two output windows displaying the same data (from the original model run). This gives the appearance that the output file is not working and the new data is not accessible. However, a simple refresh of any open output window will update that window and display the latest data. It appears that that the underlying function of the output link is working and the difficulty lies in the manner in which the data is accessed and displayed.

Lastly, the ability to make changes to individual arcs is displaying varying degrees of functionality. This attribute was tested by saving an individual arc's aggregate capacity to zero, running the model, and checking the results. At an aggregated capacity of zero the expected values for an arc's drive speed, flow of trips, and congestion level are zero, zero, and infinity, respectively. On PCs, the function is not working at all if using Internet Explorer. If the user specifies an aggregate capacity of zero for an individual arc, saves the change, and runs the model, when the user checks that arc after the model run is complete the aggregate capacity for the arc in question will have reverted back to system-wide

aggregate capacity (i.e. if the rest of the system is at 100% aggregate capacity it reverts to 100% for the individual arc as well, and if the system is at 50% aggregate capacity, the individual arc reverts to 50% as well). The resulting output (obtained by either selecting the individual arc on the GUI map or by accessing the relevant output file) shows the flow of trips, drive speed, and congestion levels at the system-wide aggregate capacity and not the zero aggregate capacity, confirming that the input was not registered by the GUI.

For the remainder of the system-browser configurations the problem was consistent. Following the process outlined above, the model runs do in fact maintain and incorporate any individual arc changes saved into the model. The issue is now simply a matter of display. After such a model run, if the user looks at the output obtained from the output file the resulting values for the arc in question will indeed be as expected – drive speed, flow of trips, and aggregate capacity are all zero and the congestion level has gone to infinity. However, if the user selects the arc in question on the GUI map the individual arc information shows the zero value for aggregated capacity yet does not reflect any changes in the drive speed, flow of trips, or congestion level. Thus, it appears that while the model is incorporating the arc-specific changes into the model and the output, the results are not being reflected on the map.

Discussion and Recommendations

To summarize, the model's core functions are working properly when using Firefox as a browser. Although the output file link and the ability to make individual arc changes may appear to be dysfunctional, the problem is primarily one of display. If the user knows how to access the results properly the data is actually there.

In addition, two aspects of the TRAN GUI present challenges for the usability of the model. First, after every model run is conducted the page refreshes and reverts the user input display (both gas price and aggregate capacity) to base values. This leads to some confusion regarding whether or not the model ran with the inputs that were specified, and, even if the model did run correctly, it may lead to questions regarding what those exact inputs actually were. Second, if the reset aggregate capacity button is not used the model never resets the aggregate capacity for the individual arcs. Thus, if one user ends a session and closes the GUI, when the next user opens the GUI all arcs' aggregated capacities are as the first user left them. The new user has no indication as to whether or not any individual changes have been made to any arcs. The concern here is that a user may begin conducting his analysis with some individual arcs unknowingly set to zero (or otherwise) aggregate capacity, leading to misuse of the GUI and inaccurate model results.

As a result of the preceding discussion there are both short-term and long-term issues to be addressed. In the short-term, **Recommendation #1** is to add a "read me" link that provides detailed GUI user instructions. This should include the following best practices for users (at least until the underlying display issues have been corrected):

1. Always run the TRAN GUI using Firefox as the web browser, as this should ensure the GUI is functioning as completely as possible.
2. Always reset the system wide aggregate capacity at the beginning and the end of any session. This will help to minimize the possibility that a user opens the GUI and runs a series of analyses while an individual arc has unknowingly had its aggregated capacity altered.

3. When conducting model runs the user should carefully record the user specified inputs, as the model display reverts to baseline input values after every model run.
4. When conducting analysis of the model results the user should obtain the necessary data from the output file, not from the individual arcs on the GUI map, as the data displayed on the individual arcs may not incorporate model results from changes made to individual arc specifications.

Closely related, **Recommendation #2** is to add an indicator that would let the user know when changes have been made to individual arcs. This would help the user guard against using the GUI while unintended changes have been made.

Recommendation #3 is to determine the importance and the difficulty involved in fixing the functions for map saving and choosing the attribute classification method, correcting individual arc display when individual arc changes have been made, and improving the compatibility of the TRAN GUI with Internet Explorer and Safari.

Lastly, several changes have been identified that would enhance the GUI visually and aid in its use.

Recommendation #4 is to assess the importance and the feasibility of implementing the following visual changes:

- Decrease node size on the GUI's map. The large node size introduces significant clutter from a "zoomed-out" perspective. Alternative solutions include having the 'default' map not show the road nodes until the user turned them on or, if possible, moving the map labels to the foreground.
- If possible, get arrows implemented on the interaction arcs so that the user can identify each arc's direction of traffic flow.
- Always have the GUI reset to baseline values at the start of every user session, ensuring that the user has a 'blank slate' upon which to work. This will avoid confusion and misuse of the GUI and its output.
- When choosing the attribute to be displayed, break the existing drop-down menu into two. One would allow the user to select the variable of interest (i.e. drive speed, congestion level, etc.) and the second would allow for the selection of the function being applied to that variable (i.e. base value, new value, difference from base value, etc.).

The longer-term issues are primarily concerned with more advanced features and uses of the model. As an extension of the TRAN GUI, **Recommendation #5** is to develop an internal or external spreadsheet capability that would access GUI output files and transform and organize the output from various model runs into a more usable and clearly labeled datasets. Such a program could be written using Microsoft Excel to access the data in TRAN GUI output files that have been saved in text format, or could be developed within the TRAN GUI itself. An essential feature of such a function would be the ability to easily store the results of historic model runs.

Recommendation #6 involves more significant changes to the GUI display. These include:

- After a model run the user-defined parameters should be displayed for the user to see, rather than reverting to baseline inputs;
- The ability to choose which “Base map” is used in the display;
- Development of a hierarchical structure of the drop-down menus for the attributes displayed, a feature that will be important upon expanding to the full RELU-TRAN GUI where many more variables will become available;
- Ensuring that model results are consistently and correctly displayed on the GUI after an arc-specific user change.

Recommendation #7 is to assess how the current GUI handles multiple simultaneous users conducting model runs. This would include a potential expansion to allow multiple users to login and logout, conducting separate strands of simultaneous yet independent model runs.

Lastly, it is emphasized that the TRAN GUI is just one piece of the final RELU-TRAN GUI. The existing architecture, and any future changes to the TRAN GUI, should be designed with RELU-TRAN GUI expansion and compatibility in mind.

Appendix A. Additional Tables

Table A1. Arcs Assessed and their Characteristics

Arc	Nodes Connected	Model Zones Connected	Baseline Aggregated Capacity	Baseline Drive Speed	Baseline Flow of Trips	Baseline Congestion Level
1	1 to 5	Downtown L.A. to Maywood	16,219	24.33	247,458	15.257
23	6 to 120	Florence to Baldwin Hills	31,741	43.29	179,435	5.653
29	8 to 108	Beverly Hills to Downtown L.A.	110,512	63.14	196,712	1.780
318	98 to 91	San Diego to Temecula	1,000	79.73	23	0.023
571	173 to 86	East Riverside to Riverside	190,750	74.68	90,634	0.475

Table A2. Arc 571, Connecting Riverside to Mira Loma – Nodes 173 to 86

Model Run	Gas Price	% Aggregated Capacity	Aggregated Capacity	Drive Speed	Congestion Level	Flow of Trips
<i>Base</i>	\$1.60	100%	190,750	74.68	0.475	90,634
1	\$0.16	100%	190,750	74.32	0.510	97,208
2	\$4.00	100%	190,750	75.16	0.430	81,927
3	\$16.00	100%	190,750	76.07	0.345	65,763
4	\$160.00	100%	190,750	76.79	0.279	53,202
5	\$1.60	50%	95,375	69.50	1.008	96,097
6	\$1.60	200%	381,500	77.28	0.234	89,458

Table A3. Arc 23, Connecting Inglewood to 110 – Nodes 6 to 120

Model Run	Gas Price	% Aggregated Capacity	Aggregated Capacity	Drive Speed	Congestion Level	Flow of Trips
<i>Base</i>	\$1.60	100%	31,741	43.29	5.653	179,435
1	\$0.16	100%	31,741	43.28	5.655	179,491
2	\$4.00	100%	31,741	43.32	5.644	179,155
3	\$16.00	100%	31,741	42.93	5.756	182,686
4	\$160.00	100%	31,741	41.25	6.262	198,749
5	\$1.60	50%	15,870	30.39	10.882	172,697
6	\$1.60	200%	63,482	55.91	2.873	182,382

Table A4. Arc 318, Connecting San Diego to Temecula – Nodes 98 to 91

Model Run	Gas Price	% Aggregated Capacity	Aggregated Capacity	Drive Speed	Congestion Level	Flow of Trips
<i>Base</i>	\$1.60	100%	1,000	79.73	0.023	23
1	\$0.16	100%	1,000	79.53	0.040	40
2	\$4.00	100%	1,000	79.93	0.006	6
3	\$16.00	100%	1,000	80.00	0.000	0
4	\$160.00	100%	1,000	80.00	0.000	0
5	\$1.60	50%	500	78.93	0.090	45
6	\$1.60	200%	2,000	79.91	0.007	15

Table A5. Arc 29, Connecting Beverly Hills to Los Angeles – Nodes 8 to 108

Model Run	Gas Price	% Aggregated Capacity	Aggregated Capacity	Drive Speed	Congestion Level	Flow of Trips
<i>Base</i>	\$1.60	100%	110,512	63.14	1.780	196,712
1	\$0.16	100%	110,512	62.89	1.813	200,401
2	\$4.00	100%	110,512	63.56	1.725	190,637
3	\$16.00	100%	110,512	65.32	1.499	165,610
4	\$160.00	100%	110,512	69.49	1.009	111,491
5	\$1.60	50%	55,256	50.84	3.825	211,338
6	\$1.60	200%	221,024	71.78	0.764	168,752

Table A6. Arc 1, Along 1-5, Southeast of the Los Angeles Marker – Nodes 1 to 5

Model Run	Gas Price	% Aggregated Capacity	Aggregated Capacity	Drive Speed	Congestion Level	Flow of Trips
<i>Base</i>	\$1.60	100%	16,219	24.33	15.257	247,458
1	\$0.16	100%	16,219	24.34	15.244	247,245
2	\$4.00	100%	16,219	24.29	15.287	247,939
3	\$16.00	100%	16,219	23.90	15.648	253,796
4	\$160.00	100%	16,219	20.60	19.223	311,778
5	\$1.60	50%	8,110	14.95	29.018	235,329
6	\$1.60	200%	32,439	36.44	7.969	258,515