



Draft Meeting Summary BROADWAY BOULEVARD CITIZENS PLANNING TASK FORCE

October 18, 2012

5:30 p.m.

Child & Family Resources Angel Charity Building
2800 East Broadway Boulevard
Tucson, Arizona 85716

The Broadway Boulevard Citizens Planning Task Force meeting summaries provide a brief descriptive overview of the discussions, decisions and actions taken at the meetings. The summary and the audio recording of the meeting comprise the official minutes of the Broadway Boulevard Citizens Planning Task Force Meeting.

Meeting summaries and audio recordings of the meetings are available online at the City Clerk's web page at:

<http://cms3.tucsonaz.gov/clerks/boards?board=100>.

Requests for CD copies of the audio recordings are taken by the City Clerk's Office at (520)791-4213.

MEETING RESULTS

1. Call to Order/Agenda Review

The meeting was called to order by Citizens Task Force (CTF) facilitator Nanci Beizer. The agenda for the meeting was reviewed by Nanci Beizer.

2. Update: Process for Defining Functionality

Jim DeGroot, Director of Transportation Services for the Regional Transportation Authority (RTA) addressed the CTF briefly to give an update regarding the process of defining functionality. Mr. DeGroot stated that the topic of functionality was addressed at both the Technical/Management Committee (TMC) meeting on October 3, 2012 the Citizen's Accountability for Regional Transportation (CART) Committee meeting on October 4, 2012. At these meetings RTA staff gave a report on functionality, discussed multimodal transportation, and delivered the EPA's Guide to Sustainable Transportation Performance Measures to the committee members. Additionally, Mr. DeGroot explained that at the T/MC meeting, RTA staff suggested that the policy subcommittee might take on the task of helping

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define functionality to guide the CTF in their decision-making process. It was noted that the T/MC did not take action on this recommendation. Finally, Mr. DeGrood stated that Doug Mance was introduced at the CART meeting as the ex-officio member of the Broadway CTF representing the CART Committee. Mr. Mance thanked the CTF for allowing him to be a go-between for the CART Committee and the CTF.

After Mr. DeGrood spoke, TDOT Broadway project manager Jenn Burdick offered the following statements: This is just one of many conversations that we will have regarding functionality. No decisions will be made tonight as we are just starting the process. This meeting will begin by first introducing functionality in broad terms. Presentations will help inform a larger discussion at the end of the meeting. These presentations and discussions will include both transportation and non-transportation performance measures, though the primary focus of the evening's meeting is the transportation performance measures.

The CTF made the following comments based on the update Mr. DeGrood and Ms. Burdick gave:

- I am encouraged to see a broad conversation regarding functionality. The term in the RTA's policy is not defined and the City has empowered us to do so. While I am happy that there have been several committees established lately to help us with the definition, let us, as a CTF, study the corridor and not give away the job of defining functionality for it.
- We are not experts on functionality, nor are we entrenched as planners; however, we will have a good sense of what works and what does not work as we move along. I recommend to the team to continually bring in experts from the RTA, and City Transportation Planners to inform our work and guide our decisions.

3. Framing the Discussion on Functionality and Performance Measures

Project team member, Phil Erickson, followed Mr. DeGrood's update with a brief presentation regarding role of functionality and its relation to performance measures. This presentation covered:

- The role of functionality in roadway design
- The focus the project will have on "Multi-Modal Transportation Functionality"
- How functionality will be measured through evaluation criteria and performance measures
- The role of functionality in roadway design

Mr. Erickson noted that this was a high level overview and a framework for what will be discussed in greater detail later in the meeting.

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4. Presentation & Discussion of Broadway Traffic Studies and Analyses

Jim Schoen of Kittelson and Associates presented a summary of the traffic studies and analyses that have been conducted for the Broadway Corridor. The following topics were covered by Mr. Schoen:

- Corridor traffic planning and studies
- Roadway classification and function
- Existing conditions and future needs
- Physical features of the roadway
- Traffic volumes in the corridor
- Transit ridership and pedestrian activity within the corridor
- Traffic operations measure: Level of Service
- Multi modal operations and facilities
- Crash history
- Traffic projections
- Cross section alternatives and capacity needs
- Arterial travel speed
- High Capacity traffic

A robust question and answer session followed the presentation. CTF members raised a number of questions and concerns, which are included below. A summary of the responses provided by Mr. Schoen and project team members are also noted.

CTF Questions, Concerns and Comments

- Primarily on bicycle and pedestrian scores, was the time of year considered as a factor for the data, and what were the conditions?
- How many bike and pedestrian accidents are reflected in the crash data?
- This data only reflects accidents that are reported. How do we know the percentage of accidents that are not reported?
- I assume there are many more accidents than the numbers indicate. Do you know the standard for reported vs. unreported bike accidents?
- I do not consider any number of accidents “ok.” The goal should be to get to zero.
- Could you please clarify what you mean by four lanes? What does that include at Campbell?
- When looking at six lanes, does that include a dedicated lane for transit as well?
- How is BRT functionally different from the express bus routes?
- Regarding the existing conditions data - if the traffic counts are only based off of two days in February how do the numbers represent the average

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weekday hourly traffic? Are the numbers only for transportation - not bicycle or pedestrian activity?

- Has a study been conducted on the effects of pollution gauged by the number of lanes of traffic? How much pollution will be generated if the roadway remains only four lanes?
- Question about the report card lettering system for flow time and level of service: the EPA talk about reducing travel time by 10 percent which is easily doable by static numbers, but what happens when you try to increase bicycle and pedestrian safety? How do you accomplish this and reduce travel time? Your numbers are based on static figures and do not take things such as cross walks, slow-down points, and driveways into account.
- Referring to the comment that was made earlier about how the data was collected, what is the expected variability during the week, and seasonally? Do we know these results?
- I am familiar with Kittleson's work and I know it is good, but we need to look at the bigger picture. PAG's 30 percent growth model shows an increase of 16,000 vehicle trips per day in the corridor over the next 30 years. I am surprised by this. Plans from our community cite that we are an aging population and that our transportation patterns are going to change...we are fighting ourselves. These plans say that we want to be a multi-modal community with transit, density and transit-oriented development, but we are not designing our roadways in a manner that is conducive to this. Why would we assume we will drive the same way we do now? Even if we do, how do we get 56,000 vehicle trips per day in the corridor? Let's look at how models are developed for projected growth trends. These plans do not assume multi-modal travel; rather the model used to design roads leads us to do the same thing we have been doing. How do these models arrive at the numbers and assumptions behind them? We need to challenge these assumptions and reverse the order to start by saying what we want from the corridor and designing our roadways based off of this. Even if we assume that 56,000 people want to travel down the corridor every day I would challenge the assumption that 98 percent of them will be using cars. A handout has been provided to you that addresses this information, and the images give an example of what I mean (see attachment).
- If we add more turning lanes but do not modify the roads that the cars are turning onto, how can we make judgments regarding capacity? For example, when you make a right hand turn and all of the sudden you are waiting in a line; it happens all of the time in the University area. We need to look at the whole picture.
- I could see that same thing happening at Country Club. Two left hand turn lanes are squished into two small lanes on Country Club and at times there could be a bus there. It can get very backed up. How do you take this all into consideration?

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Summarized Responses

- The time of year was not taken into account when we looked at the bicycle and pedestrian scores. It is only the physical characteristics of bicycle and pedestrian facilities that are assessed, such as the existence of bike lanes or sidewalks, their widths, the speed of traffic, and the like.
- The data for pedestrian and bike accidents is not readily available. We will have to look through all of the individual reports to pull this data. The project team will look into this and follow up with the information.
- There is no methodology to ascertain the amount of unreported accidents.
- In the traffic study, the four-lane (in each direction) configuration at the Campbell intersection includes dual left hand turn lanes. The six-lane configuration, (three each way), **does not** include a dedicated transit lane.
- The difference between Bus Rapid Transit and the Express Sun Tran Routes are that the Express Routes only go from one point to another where as Bus Rapid Transit has one stop approximately every one mile.
- When the traffic analysis was conducted, we chose a day that we thought would be a good representation of average traffic counts throughout the year.
- There has not been a study conducted on levels of pollution in the corridor and how that would relate to the number of vehicular travel lanes. However, it is likely that higher levels of pollution will result from the congestion and lower travel speeds caused by having fewer lanes than needed. This can be looked at.
- The Level of Service (LOS) for the corridor is looked at as a whole and the numbers do not take things like crosswalks or HAWK signals into account. The more signals that go into a corridor will reduce the overall LOS score.
- Seasonally, traffic counts are expected to vary by 5 percent. The traffic volume is greater in the winter, but we cannot tell what the variability is on a daily basis.
- When looking at the corridor, we need to look at the detailed operations and overall traffic flow. For example, that is why bus pullouts were added at the intersection of Country Club and Broadway - they alleviated the congestion caused by cars making left hand turns from Broadway onto Country Club.

5. Introduction to Transit, PAG's High Capacity Transit Study, & Bus Rapid Transit

Carlos de Leon, Deputy Director of the City of Tucson Department of Transportation (TDOT), gave a presentation introducing transit operations, PAG's High Capacity Traffic Study, Bus Rapid Transit (BRT), and a focus on projects related to the Broadway Corridor. The following is a summary of the items that were presented:

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- Current transit operations on Broadway
- Potential High Capacity Transit options
- PAG/RTA BRT Implementation Analysis
- BRT characteristics and benefits to passengers

Following Mr. de Leon's presentation the Task Force members engaged Carlos in a conversation regarding the above mentioned topics and were particularly interested with the viability of high capacity transit along the corridor. Listed below is a summary of the questions asked and the responses that were given by Mr. de Leon and the project team.

CTF Questions, Concerns and Comments

- On the Broadway segment have you identified any annual increases in that route over time?
- Would BRT replace the existing bus service or would dual service be an option?
- Regarding the design concept alternatives and the short-term vs. long term plan, will what is suggested in the short-term work with the long-term (10-20 year) plan so we don't spend \$70 million on this project just to have to tear up the road again?
- From the reading materials I get the impression that the BRT vehicle will be bigger than traditional buses, with current pull-out capacity and diamond lanes would longer bus pull-outs be needed to accommodate the BRT vehicles? Do bus pull-out lanes reduce travel time for transit?
- Does the PAG model account for the high ridership numbers on Broadway (2.1 percent mode split)?
- What is the share use of people who use bicycles vs. transit vs. cars vs. pedestrians?
- It appears that it is (Broadway) the obvious time and place for BRT. How much money is there to do BRT now and pay for it over the next 10 years? Where is the money right now? How much of a percentage will the FTA fund? Could the federal funds possibly be cut due to changes in the administration and the national political climate?
- Have the near, mid, and long-term transit options been identified for the Broadway corridor? Do you see both BRT and the Streetcar being able to work together in the corridor vs one over the other? How likely is the streetcar to run down the Broadway Corridor, and has this been studied? How wide does the center median need to be for parallel buses to operate? Further, I see a lot of right of way requirements for high capacity transit to operate and my biggest concern is preserving the character of the corridor and the neighborhoods. At the same time we need to look at all the transit

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option alternatives. If the high capacity transit was placed in the center median we would ideally lose the cost of maintaining the landscaping.

- What are the safety factors for BRT operating in the mixed flow traffic and what are the safety concerns for passing traffic to allow for transitioning of lanes for hybrid BRT systems?

Summarized Responses

- We have yet to do an analysis of the year to year changes in ridership for the Broadway bus route but will do so in the near future.
- The way that BRT and the existing service would function has yet to be determined. Local service may be needed but we do not want the two systems to compete with one another.
- We need to design the roadway to preserve the opportunity for the long term transit options to avoid having to come back and tear up the road again. The Transit Working Group is working to provide the CTF with design alternatives that take this into consideration and give preferred “running way” options that allow for future development.
- The BRT vehicles are longer and will require bigger bus pull-outs.
- Pull out lanes do reduce transit travel times, the key is to have a balance.
- PAG’s model is regional but it does have a sub-model that distributes trips by zone, there is most likely some accounting for a higher transit load share for the Broadway corridor. Jim Schoen will verify this information.
- The FTA has funding mechanisms in place that provide capital funding for a certain percentage of the project cost. There are many factors involved including changing legislation and the opportunities that are out there. Funding for transportation comes from a separate fund than the general fund so changes in the national political environment generally do not affect transportation projects. The federal funding process is called New Starts and is usually a two year application process in which you demonstrate the factors that show why high capacity transit is needed and why it would be successful.
- Both the streetcar and BRT could operate together, we have to evaluate where both technologies could work together. Transit corridors are defined within one mile limits so you could have the streetcar operate on 6th Street and BRT operate on Broadway, or you could even do both on Broadway if the ridership is there. An alternative analysis will need to be conducted to apply for federal funding that would indicate the different possible routes.
- The rule of thumb for center median width for light rail is 28 feet. We need to design the roadway to preserve the opportunity for High Capacity Transit.
- The safety element for a hybrid BRT system operating in mixed flow traffic has yet to be looked at but will be if that is the system chosen as a result of the design phase.

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- In other cities that I know are designing hybrid BRT systems the designers have been very creative in creating a balance to mitigate safety concerns.

6. Discussion of Transportation ‘Functionality’ Performance Measures

Phil Erickson revisited the topic of functionality from earlier in the meeting to discuss evaluation criteria and performance measures. These performance measures included measures discussed in the EPA’s Guide to Sustainable Transportation Measures and additional measures that are applicable to the Broadway Corridor. The performance measures that were discussed covered both transportation and non-transportation related indicators that are relevant to the project. A matrix of the performance measures and their associated indicators were provided to the Task Force to help demonstrate how they could be used to guide the design process. Following this presentation, the CTF had the following questions and comments:

- Have you considered how different income groups are affected by the different high capacity transit options (BRT, light rail, streetcar)?
- Can you explain the slide regarding performance measure - why are some measures grayed out? Isn’t mixed land uses a concern?
- How can you look at bicycle and pedestrian level of service without considering the activity and safety of both?

The project team responded to these questions with the following answers:

- Transportation affordability is difficult to look at because you have to look at everyone who travels along Broadway, not just the corridor. Again, this is difficult due to the regional nature of Broadway and the amount of people who utilize it. We can definitely come back to the performances measure and take a look at this issue if it is important and meaningful.
- The measures in the color code are grayed out because they may not necessarily be applicable to the two-mile study area, they may be difficult to measure, or there may a substitute that gets at the issue in a better way.

7. Call to the Audience

Five (5) members of the public filled out speakers cards and were called on to address the Task Force:

Laura Tabili - Ms. Tabili began by thanking the CTF for their diligent work and stated that she was proud of them for asking difficult questions. Ms. Tabili brought up the 2012 Broadway traffic report and commented on the fact the numbers in this report contradict the predictions made in the 1987 plan. She expressed her dislike of the project logo as it did not incorporate a pedestrian and it appears that the bus is “bearing down” on the bicyclist. Further, she offered her opinion regarding the project stating that, if it is built how it is planned on the ballot that it will aggregate traffic congestion rather than alleviating it, the Country Club intersection will fail after the project is built, that it will be detrimental for pedestrians and that is based off of dubious studies and projected traffic volumes. Ms. Tabili provided a handout of her comments, attached.

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Gene Caywood - Mr. Caywood offered his gratitude towards presenter Carlos de Leon stating that his presentation on High Capacity Traffic was well done and that he agreed with 98 percent of it. Mr. Caywood expressed his appreciation for the RTA Transit Working Group and the significant effort they are making to look at multi-modal and high capacity transit and their application for the region. However, Mr. Caywood disagreed with the notion of high capacity transit only operating in the median and stated that it needs to be a hybrid system. He concluded by stating that the medians could be designed to be only 22 or 24 feet wide and that would still accommodate fixed rail transit, and that we must look for other areas around the city - in addition to Broadway - where high capacity transit would be viable.

Katya Peterson - Ms. Peterson introduced herself as a member of the Broadway coalition and thanked the Task Force for their careful attention to detail and their hard work. She reflected on a list of seven reports that the Broadway Coalition believes the Task Force should take into account when making their design decisions (a copy was provided to all Task Force members by the Broadway Coalition and is attached). She stated that all seven reports are from 2012 and reflect current economic and demographic trends that affect transportation. Ms. Peterson believes these trends are not represented in PAG's model. Additionally, Ms. Peterson brought the following factors that she believes are reducing automobile use in our community:

- An aging population
- High gas prices
- Environmental considerations

She concluded by asking the Task Force to take these factors into account when evaluating studies and making decisions, to use creativity when designing the roadway, and to design the project in a manner that make the Broadway Corridor a "Destination."

Steve Kozachik - Vice Mayor Kozachik commented that he liked that the project is incorporating the EPA's Sustainable Transportation Performance Measures and other performance measures that go beyond Level of Service; however, he elaborated that the CTF should have had a say in what performance measures were ultimately recommended to be used. The Vice Mayor went on to state that at a recent Town Hall meeting at his office, the Mayor stated that we may not even build the project. Mr. Kozachik clarified that, indeed, the project is going to be built and that it going to be built to a paradigm that will enhance the corridor and the way that we design future projects.

Furthermore, Mr. Kozachik stated that in 2004, PAG projected a 52 percent increase in traffic volumes along the corridor and tonight it was presented that there would only be a 30 percent increase by 2024. He stated that this demonstrates that projections are not a science, and that, in fact, they are based off of human behavior. Mr. Kozachik asked the CTF to not get locked into projections and to take population growth and the emerging trends of how people transport themselves into account. Finally, Mr. Kozachik stated that we are all not experts on defining functionality and that, clearly, the professionals are not either.

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Demion Clinco -Mr. Clinco introduced himself as the president of the Tucson Historic Preservation Foundation and invited the CTF and the audience to attend a series of events during “Modernism Week” (November 9-11, 2012). Mr. Clinco stated that Broadway Corridor has a rich collection of historic buildings and structures and that, since no major investment has happened in the corridor since 1984 (due to proposed roadway expansion), the architecture is mostly intact in its original condition. The “Modernism Week” events will include: events, parties, lectures, films, and workshops. A by-invitation-only design charrette with the theme of what Broadway could look like without roadway expansion will occur on Saturday. Mr. Clinco invited the Task Force to observe this activity.

8. CTF Roundtable

Nanci Beizer led a roundtable discussion with the Task Force that covered many topics, including: whether or not the study session format worked, performance measures, transit, the Broadway Corridor traffic analysis and more. The following is a summary of the comments made during the roundtable discussion:

- We need to “circle back” and revisit the matrix of performance measures. It seems like what has been identified as metric items could be potential goals for the project. The end results may not be known until years down the road but we can certainly develop our goals based off these. For example, bicycle level of service: the goal should be to provide safety to everyone on the roadway while still provided access points to businesses. How can we frame this as an achievable goal?
- We need more opportunities for internal discussion regarding the topic of functionality.
- Each one of us needs to digest the information that has been presented to us tonight and come back soon to have an initial discussion. We are not going to “nail” it the first time and it is going to be an ongoing process. Instead of listening passively we have to talk as a group about how our stakeholders view functionality.
- We need time to digest this information and then comment on performance measures. I appreciate the work that Phil and the team are doing together. We must respect the traditional knowledge that Jim presented tonight regarding traffic studies analyses, but we also need to attempt to bring in a another set of metrics to help us bridge the traditional performance measures with livability, safety, capacity and transit issues. We need to look at everything that was presented tonight and then to come back to the metrics to answer the question of what we want to do with this project.
- How do we want to handle the discussion of the historic buildings and structures in the corridor?
- Moving forward we need to allow more time for discussion and less time for presentations.

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- We also need to look at economic development and existing zoning and discuss what needs to be changed. Additionally, we need to continue to revisit the metrics as more information comes our way to stay on top and be “fresh” with it.
- We need to sit in front of maps with right-of-way sections that identify all of the things we want and envision for the project. We need to identify our inherent visions and goals that we have for the project. What struck me tonight is the number of driveways and access points to businesses along the corridor which is excellent for business accessibility but awful for bicyclists. If we want to make preserving businesses a goal of the project we also need to look at what that means for bicyclists. The information that was presented tonight was great.
- My stakeholders would like me to express their disappointment with only having one call to the audience at the end of the session, not everyone can be here for three hours.
- We are doubling up the amount of meetings and spending more of our personal time to discuss things. The public already has many opportunities to interact and contact us.
- It would have been helpful to have seen the matrix of the performance indicators ahead of time as it presented a different angle tonight.
- I need the presentations as well as the introductions to the items. I need to look at the material, read it, have it presented to me and then be able to ask follow up questions.
- We want all the information ahead of time and the presentations to ask questions.
- It would be preferable to get all the information ahead of time instead of piece by piece.
- I believe we are receiving the information in the manner that we are because it is a lot of information and the project team needs to get it out in a timely manner. I have a great amount of respect for the project team and what was produced in a very short amount of time in between our meetings.
- This process is going to be very challenging. We need to “buck up” and do it.
- It is important to have presentations and then discuss it. I would like a standing item for CTF discussion, it is critical to engage while we are here.

During the Roundtable, Jenn Burdick stated that the project team will incorporate a standing item for CTF discussion as it seemed like a very important topic. She also clarified the schedule and format of the “Study Session” style meetings and elaborated that it is challenging to balance how to get enough detailed information and allow for an appropriate amount of discussion.

Additionally, Phil Erickson stated there are a lot of existing analyses with performance measures and asked the CTF if it would be helpful to receive a memo

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in advance and then study it on their own instead of having a presentation. Mr. Erickson explained that this could, potentially, be a way of saving time as it would reduce the number of presentations. As captured in the synopsis above, the majority of the CTF stated that they prefer having presentations.

The Roundtable concluded with Nanci Beizer challenging the project team to create agendas that build in more time for CTF discussion. The project team accepted this challenge and also agreed to follow up on the following items:

- Providing a separate binder for the Public Input Report
- Re-circulating the vision and goals worksheet via email
- Providing a schedule of future meeting content for review at the November 8th meeting
- Providing a detailed agenda of activities for November 10th workshop

9. Next Steps

Nanci Beizer led a discussion regarding the November 8, 2012 CTF meeting. The meeting date and agenda items were confirmed. At the November 8, 2012 meeting the following topics will be covered:

- Results of Historic Building Inventory
- Results of Land Use, Urban Form, and Significant Structures Report
- Introduction to Multi-modal Street Cross Section Elements and CTF Hands-on Session

10. Adjourn

Nanci Beizer called meeting to a close at 8:45 p.m

The presentations given at this meeting can be reviewed by visiting the Broadway Boulevard Citizens Task Force web page at:

<http://cms3.tucsonaz.gov/broadway/broadway-citizens-task-force>

Citizen Task Force Members	
Present	Absent
Bob Belman	Farhad Moghimi
Michael Butterbrodt	Dave Nasser
Anthony R. DiGrazia	Shirley Papuga
Mary Durham-Pflibsen	Diane Robles
Steven Eddy	Elizabeth Scott
Colby Henley	Jamey Sumner
Jon Howe	

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Comments on 2012 Traffic Engineering Study posted on Broadway Project website

Ironically, the logo for the project depicts a bus bearing down on a bicyclist with nary a car in sight. This in itself is deceptive, as the report admits the expenditure of \$74 million and destruction of \$43.7 million worth of property will only marginally improve bus times and worsen conditions for bicyclists. Curiously, no pedestrians are depicted: perhaps the pedestrian has expired while standing on the center median trying to cross the street. This is because the main deficiency in this Traffic Study, indeed, is its continuing advocacy for adding traffic lanes for such minimal benefit, and in some cases active harm to other users of the street.

AGGRAVATING CONGESTION

1. p.1: reports traffic volumes ranging between 36,00 and 41,000 vehicles per day. This in itself is deceptive, since volumes of 41,000 were found only east of Country Club, that is, outside the study area. (p.15 Exhibit 10). Between Euclid & Country Club volumes remain between 30,000 and 40,000, as in the 1980s.
2. The report admits, also on p.1, that due to the bottleneck at Country Club created by Broadway Village on the south and the Chase Bank on the north, the Country Club intersection is expected to fail within 7-10 years from the completion of this \$74 million project.

Quote: At Country Club Road, dual left turn lanes and right-turn lanes are required to serve projected future turning demand, however due to constrained right-of-way, it is likely that only single left-turn lanes can be provided. As such, it is expected that this intersection will become congested during the evening peak traffic period based on 7-10 years of projected traffic growth.

The report contains other dubious observations about traffic volumes, but--What about other users of the street?

WORSE FOR PEDESTRIANS

3. The report admits the "improved" roadway will be worse for pedestrians, by forcing them to wait through 2 changes of lights to get across the street: existing pedestrian crossings at Cherry and Plumer will be redesigned as "2-stage crossings" pp. 2, 23, 29.

As a pedestrian, I am continually amazed that Tucson traffic engineers think it is just awful for a motorist comfortably seated in a climate-controlled vehicle to have to wait through 2 changes of lights to get across an intersection--but as for a pedestrian--an elderly person, a child, a disabled person in a wheelchair-- it's just fine for them to get halfway across the street in one change of lights, and then have to hang around on a sunbaked median while traffic whizzes all around them belching exhaust, waiting for another change of lights to get to the other side of the same intersection. That's what spending \$74 million of our money is expected to do for pedestrians.

MARGINAL IMPROVEMENT FOR BUS RIDERS

What about bus riders? Page 2 of the report projects a 12%-15% improvement in bus delays and

*received on 10/18/2012 at CTF meeting
from Laura Tabili, Broadway Coalition*

A 6% improvement in bus travel times over this 2-mile stretch. After the expenditure of \$74 million!

LIP SERVICE TO IMPROVED TRANSIT

You may have observed that the transit study on the website dates from 1990. The COT's failure to revisit the issue in over 2 decades suggests the demand for transit lanes is merely a stalking horse for more lanes for cars.

WORSE FOR BICYCLISTS

The report finally gets around to bicyclists on p.27, and this is what it says:

The results, provided in Exhibit 19, indicate that a 6-lane roadway with 5-ft or 6-ft bike lanes will provide good level of service for transit users and pedestrians, however bicyclists will experience poor level of service (LOS E). The primary factors affecting bicycle level of service are high traffic volumes and high density of driveways and side streets. Wider multi-use lanes may improve bicycle level of service simply based on a more lateral clearance between a cyclist and adjacent traffic, however the effects of conflicting transit vehicles and right-turn traffic using the same lane could very well make it a worse condition for cyclists.

That's what the expenditure of \$74 million is expected to do for bicyclists.

CONGESTION?

Let's get back to cars, shall we? If I'm reading the table on p.6 correctly, 7% of Broadway traffic occurs during morning rush hour, 7:30-8:30 am, and 8% during evening rush hour, 4:30-5:30 p.m. This just confirms the observation of anyone familiar with the street that "rush hour" on Broadway is not all that congested, and is hardly worthy of the name. Further, delay times in this 4-5 minute drive amount to a whopping 27 seconds during eastbound morning rush hour to 80 seconds in westbound evening rush hour—perhaps due to pedestrians crossing.

[Readers are directed to section 3.2.4 on HAWK signals & traffic flow which is missing from the report] But, the framers of the report might object, that's because I am failing to consider the 30%-50% rise in traffic in the next 30 years (p.14). And I repeat: if traffic has not risen on this stretch of Broadway since 1984, 28 years ago, why should it rise in the next 28 years? Never mind that the cross-streets such as Euclid, Highland and Campbell will not feed enough traffic to produce these volumes (p.14) or that accidents, another justification for widening, are actually higher on the "improved" cross-streets.(p.10)

This is just a sample of the unfounded assumptions contained in this report.

The only conclusion to be reached is that the evidence contained in the 2012 Traffic study cannot justify widening the street.

BROADWAY COALITION

TRANSPORTATION RESEARCH SUMMARIES

The enclosed sampling of transportation research and reports, all from 2012, reflect how current demographic and economic trends are affecting the transportation choices people make.

An aging population, rising fuel prices, increasing urbanization, economic constraints, increasing health and environmental concerns, etc. are reducing automobile travel demand and increasing demands for alternatives. Although automobile travel will not disappear, many people would prefer to drive less and rely more on walking, cycling, public transport and telework, provided those options are convenient, comfortable and affordable.

The Broadway Boulevard Citizens Task Force should consider the trends and conclusions presented in the attached reports when evaluating the validity of traffic studies and deliberating future design options.

1. AZDOT Study – Compact, Mixed –use Development Leads to Less Traffic (May 2012)
<http://dc.streetsblog.org/2012/05/18/arizona-dot-study-compact-mixed-use-development-leads-to-less-traffic/>
2. Has the US Reached Peak Car (Scientific American, July 2012)
<http://www.scientificamerican.com/article.cfm?id=has-us-reached-peak-car-americans-driving-less>
3. Americans Support New Transit Twice As Much As New Roads (Natural Resources Defense Council Poll, September 2012)
<http://dc.streetsblog.org/2012/09/12/nrdc-poll-twice-as-many-americans-want-transit-as-new-roads/>
4. Public Transportation Ridership Use Surged in First Quarter 2012 (American Public Transportation Association, June 2012)
http://www.apta.com/mediacenter/pressreleases/2012/Pages/120604_Ridership.aspx
5. Toward More Comprehensive Understanding of Traffic Congestion (September 2012)
<http://www.planetizen.com/node/58429>
6. The Future Isn't What It Used To Be; Changing Trends and Their Implications for Transport Planning (Abstract, Victoria Transport Policy Institute, July 2012)
abstract and table of contents only – copies of full report can be obtained at
<http://www.vtpi.org/future.pdf>
7. Transportation and the New Generation; Why Young People are Driving Less and What it Means for Transportation Policy (Executive Summary, Frontier Group/US PIRG Education Fund, April 2012)
executive summary only – copies of full report can be obtained at
<http://www.uspirg.org/reports/usp/transportation-and-new-generation>

Received on 9/26/2012; links added by TDOT on 10/23/2012

Arizona DOT Study: Compact, Mixed-Use Development Leads to Less Traffic

Posted By [Angie Schmitt](#) On May 18, 2012 @ 12:58 pm In [Streetsblog, Studies & Reports, Traffic, Transit-Oriented Development, Urban Planning](#) | [14 Comments](#)

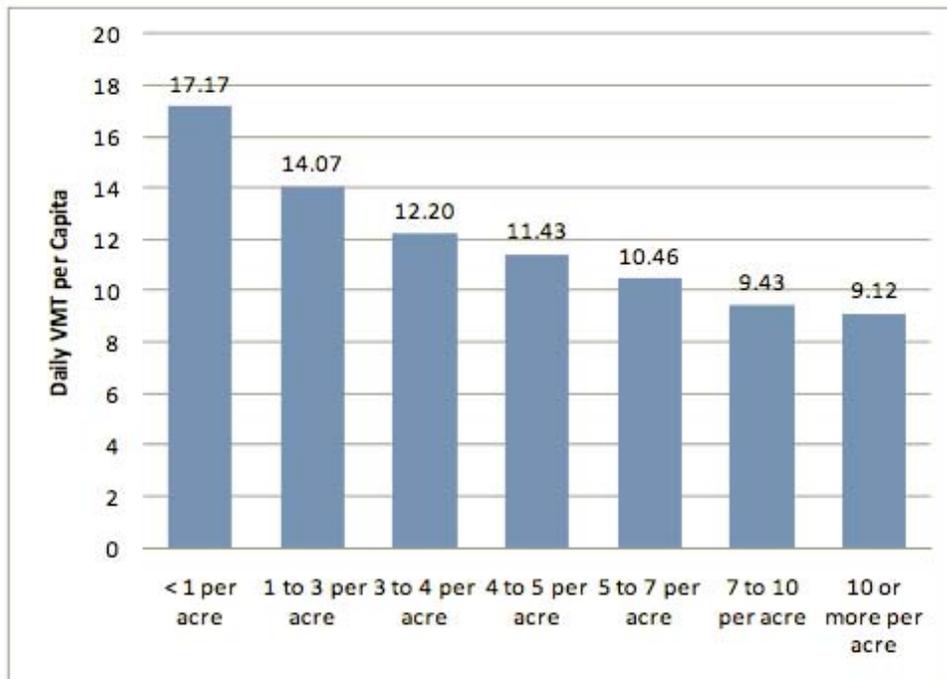


Figure 76. Daily VMT per Capita vs. Net Residential Density.

[1]

Image: Arizona Department of Transportation

Does walkable development really lead to worse traffic congestion? Opponents of urbanism often say so, citing impending traffic disaster to rally people against, say, a new mixed-use project proposed in their backyards. But new research provides some excellent evidence to counter those claims.

A recent study by the Arizona Department of Transportation [[PDF](#) ^[2]] found that neighborhoods where houses are closer together actually have freer-flowing traffic.

Researchers compared some of greater Phoenix's denser neighborhoods – South Scottsdale, Tempe, and East Phoenix — with a few of its more sprawling ones – Glendale, Gilbert, and North Scottsdale. Some interesting patterns emerged.

In the more compact neighborhoods, the average household owned 1.55 cars, compared to 1.92 in more suburban areas. Residents of higher-density neighborhoods also traveled shorter distances both to get to work and to run errands, the study found.

The average work trip was a little longer than seven miles for higher-density neighborhoods; in the more suburban neighborhoods, it was almost 11 miles. Residents of the three compact neighborhoods traveled just less than three miles to shop, while residents of sprawling locations traveled an average of more than four miles. All of this led the more urban dwellers to travel an average of nearly five fewer miles per day than their suburban counterparts.

The density divide also played an important role in transit use. Rates varied from as high as eight percent transit ridership in high-density neighborhoods to as low as one percent in the more sprawling

areas.

All of this translated into a reduced strain on roadways in the places that had more people — running counter to one of the strongest objections to mixed-use development. Comparing one suburban corridor to two of the streets in the more dense neighborhoods, the study found that on the more urban streets, traffic congestion was “much lower,” or about half as high (measured by the ratio of the capacity of the roadway to the actual volume of cars on it).

How did more compact neighborhoods manage to have less congestion? It’s not just because residents there drive less overall. Two design characteristics also ease traffic, according to AZ DOT. Fine-grained street networks distributed traffic evenly across the higher-density neighborhoods, while every driver in the suburban neighborhoods was funneled onto the same big arterials. At the same time, improved pedestrian conditions in commercial centers made it easier for some drivers to park once and walk from destination to destination, taking cars off the road precisely in the areas that attract the most people.

The results of the Arizona study may not apply everywhere, due to the state’s extremely spread out pattern of development. The higher-density neighborhoods still only had between six and seven households per acre, compared with between three and four in the lower-density places. As the report notes, “By Eastern U.S. standards, all of these densities are effectively suburban in character.”

But the report controls for a host of factors, strengthening the conclusion that the different travel behaviors were really the result of design, rather than income, say, or the student population.

The Arizona Department of Transportation deserves credit — first of all, because this is a fantastic, thorough, well-timed study, but also for pointing out the important policy implications. The agency’s recommendations include a public awareness campaign about the benefits of mixed-use, compact development; better planning and public engagement tools; and providing incentives for smart planning.

The authors noted, for example, that outdated policies sabotage planning efforts that are beneficial for livability, public health, and the environment in the name of maintaining traffic flow. The supreme irony — in light of the study results — is that these policies ultimately fail the congestion test too:

Local planners and planning commissions are still using traditional traffic engineering approaches to assess the impact of development projects. By looking only at traffic congestion levels on adjacent links, ignoring through travel, and failing to account for the efficiencies of mixed-use development on lower vehicle trip rates and VMT, progressive projects are likely to be rejected or unreasonably downsized.

The DOT also concludes that congestion isn’t always a bad thing, that density is the key to successful transit, and that short blocks are critical for building vibrant, mixed-use places.

Article printed from Streetsblog Capitol Hill: <http://dc.streetsblog.org>

URL to article: <http://dc.streetsblog.org/2012/05/18/arizona-dot-study-compact-mixed-use-development-leads-to-less-traffic/>

URLs in this post:

[1] Image: <http://dc.streetsblog.org/wp-content/uploads/2012/05/Picture-171.png>

[2] PDF: http://www.azdot.gov/TPD/ATRC/publications/project_reports/PDF/AZ618.pdf

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Has the U.S. Reached "Peak Car"?

By Julia Pyper and ClimateWire

Traffic is easing as more Americans are deciding to drive less, sell their cars or not buy one at all

By [Julia Pyper](#) and [ClimateWire](#)

When Leslie Norrington moved from Arlington, Va., to Adams Morgan in northwest Washington, D.C., a month ago, she brought all of her belongings. But not her car.

ClimateWire

"I don't need it. My apartment is just over a mile from my office, so I walk every day," she said. While Norrington, 25, still has her car in Virginia, it likely won't be hers for much longer. "I think I might give it to my parents," she said.

Trends indicate that Norrington, who works in marketing for the nonprofit American Legacy Foundation, is one of many Americans who have recently decided to use their cars less, sell them or not buy one in the first place. Whether motivated by convenience, cost or other phenomena, Americans are driving less and traffic is easing up, a growing number of studies show.



According to the Federal Highway Administration's "2011 Urban Congestion Trends" [report](#), there was a 1.2 percent decline in vehicle miles traveled (VMT) last year compared with 2010. The drop follows years of stagnant growth in vehicle travel following a peak in 2007, before the economic downturn.

"Traffic really is as much a reflection of a given urban environment as it is the health of our economy," said Jim Bak, director of community relations at the [transportation](#) research firm INRIX, which found that traffic congestion in the United States fell by 27 percent last year.

"The interesting thing about it is if you're out there and stuck in traffic every day, it's probably a good sign that our economy is humming along," he said. "But when the economy is down, and if you're fortunate enough to have a job, you'll have a little better commute but your retirement fund probably isn't doing so well."

Using government research and data collected electronically from more than 100 million U.S. vehicles, INRIX found that congestion intensity has been steadily declining nearly every month from January 2010 through May 2012.

For Californians, avoiding traffic is a favorite pastime

But it is not as though the roads to the lake house will be empty this Fourth of July week, or thereafter. Indeed, Americans are still driving close to record highs. Commuters on the busiest stretches of highway in Los Angeles, for instance, still spend more than 60 hours in traffic per year.

"I find it's one of my favorite pastimes to try and find out where the traffic is and how to avoid it," said Cristina Romero, a case worker for Rep. Henry Waxman (D-Calif.), who drives an hour and 20 minutes each day from Pasadena, Calif., to her office in West Hollywood. Once, with no traffic, she completed the trip in 35 minutes.

But Romero admits that while the traffic in Los Angeles is terrible, over the 11 years she's lived in the area, traffic levels have been about the same. "I don't think it's increased, but I don't think it's decreased, either," she said.

Her observation is true for the entire country. Rather than maintain the 50-year legacy of a 2 to 4 percent increase in vehicle travel each year, the annual number of VMT in the United States has stalled and even gone into reverse. The total number of miles driven in the United States today is the same as in 2004.

Less driving means less global warming pollution and improved public health, but it may also signal a struggling economy.

Unemployment reached a high of 10.2 percent in October 2009 and was still hovering at 8.2 percent last May. With so many Americans still out of work, fewer people are getting in their cars to go do and buy things. That, in turn, means there's less need to drive goods and services around.

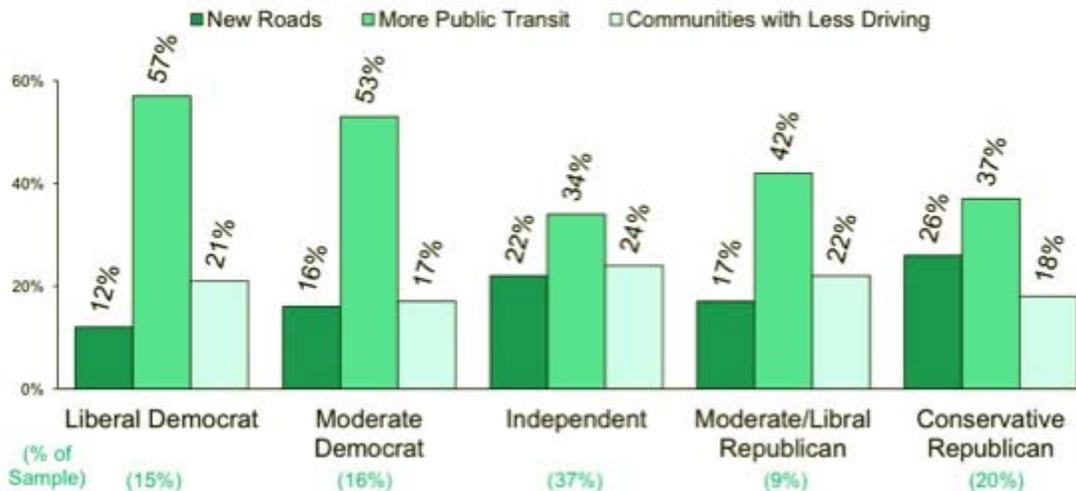
High fuel prices this year have also contributed to fewer VMT. Gasoline costs upward of \$4 per gallon in many parts of the United States this spring, and although prices have inched down, many Americans are still choosing to drive less to save a few dollars, said Bak.

- Streetsblog Capitol Hill - <http://dc.streetsblog.org> -

NRDC Poll: Americans Support New Transit Twice as Much as New Roads

Posted By [Tanya Snyder](#) On September 12, 2012 @ 2:12 pm In [Highway Expansion](#), [NRDC](#), [Transit](#) | [11 Comments](#)

Preferred Approach to Reducing Traffic, by Party and Ideology



[1]

Source: NRDC

When asked what would solve traffic problems in their community, 42 percent of Americans say more transit. Only 20 percent say more roads. And 21 percent would like to see communities developed that don't require so much driving. Two-thirds support local planning that guides new development into existing cities and near public transportation.

That's the result of a new poll released this morning by the Natural Resources Defense Council [[PDF](#) [2]]. The national phone survey of 800 Americans was supplemented by smaller surveys to gauge attitudes in the Cleveland region, Philadelphia's northern suburbs, and Mecklenburg County in North Carolina. The poll follows similar surveys NRDC conducted in 2007 and 2009.

Of the national respondents, only about a third had taken transit or a bike any time in the last month, and only two-thirds had ever done so. But even they support local investment in transit by more than a two-to-one margin.

NRDC didn't just ask about characteristics that people value when deciding where to live, they also presented trade-offs between different kinds of places (an improvement on [the National Association of Realtors' Community Preference Survey](#) [3]). When asked whether they would prefer a smaller house size if it meant shorter commutes, 49 percent of respondents opted for that choice, compared to just 29 percent who preferred the big house with a 40 minute commute. Interestingly, Cleveland residents were off the charts in favor of the shorter commute: Cuyahoga County respondents said by a 74 to 20 margin that they'd take the little house and the short commute. (Are you listening, [Jerry Wray](#) [4]?)

While the poll shows transit expansion holding a two-to-one advantage over road expansion as Americans' preferred congestion-reduction strategy, support for transit is lower than it was in the 2007 version of the same poll. While 42 percent now say traffic should be addressed by building transit, 49 percent answered gave that answer five years ago. And in 2007, 26 percent favored "developing communities where people do not have to drive as much," a number that's now shrunk to 21 percent. Support for road-building has more or less held steady at 20 percent.

The dip in support for transit and smart growth stems from an increase in people who seemingly can't make up their minds: Four percent fell into the ambiguous "all/none/don't know/NA" category in 2007, which doubled to eight percent in 2009 and doubled again to 17 percent now. Lori Weigel, a partner at Public Opinion Strategies, one of the firms that conducted the poll, insisted that this wasn't a significant change, especially since the category can mean so many different things.

Despite a very [polarized environment on Capitol Hill when it comes to transit](#) ^[5], there's no pronounced partisan divide in the real world. (See chart above.) Sure, liberal Democrats are nearly five times more likely to want transit than new roads, and conservative Republicans are only 70 percent more likely to want transit – but in the end, they all tend to think transit is the way to go.

The same goes for the urban/rural split. Yes, more big city residents want public transit (50 percent) than new roads (15 percent). But even in rural areas, 36 percent say transit versus 24 percent who want roads.

These numbers help explain the overwhelming success of transit ballot initiatives, even when those votes involve a new or increased tax. So far this year, these initiatives have an [89 percent success rate](#) ^[6].

While Agenda 21 conspiracy theorists believe transit investment and smart growth policies are all an elaborate UN plot, and even [the Republican platform](#) ^[7] now states that Democrats are trying to force us all into "government transit," this poll gets at the truth. It shows that across the board, most Americans are aware that road-building is not the way to handle growth. It also indicates that there could be significant public support for reforming our highway-skewed transportation policies and restoring sanity to the system, in order to give people the choices they want.

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URL to article: <http://dc.streetsblog.org/2012/09/12/nrdc-poll-twice-as-many-americans-want-transit-as-new-roads/>

URLs in this post:

[1] Image: <http://dc.streetsblog.org/wp-content/uploads/2012/09/demrep.jpg>

[2] PDF: http://docs.nrdc.org/energy/files/ene_12090402a.pdf

[3] the National Association of Realtors' Community Preference Survey: <http://dc.streetsblog.org/2011/04/19/is-the-realtors-survey-really-a-ringing-endorsement-of-smart-growth/>

[4] Jerry Wray: <http://dc.streetsblog.org/2011/04/15/john-kasichs-sad-war-on-transit-and-cities/>

[5] polarized environment on Capitol Hill when it comes to transit: <http://dc.streetsblog.org/2012/02/08/house-transportation-bill-too-extreme-for-some-republicans/>

[6] 89 percent success rate: <http://www.cfte.org/elections>

[7] the Republican platform: <http://dc.streetsblog.org/2012/08/29/they-totally-went-there-gop-outlines-extremist-transpo-views-in-platform/>

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American Public Transportation Association

Transit News

6/4/2012

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Public Transportation Ridership Use Surged in First Quarter 2012 ***Nationwide Increase of 5.0% with Nearly 2.7 Billion Trips Taken***

Public transportation ridership surged in the first quarter of 2012, as Americans took nearly 2.7 billion trips, an increase of 5.0% over the first quarter of last year, according to a report released today by the American Public Transportation Association (APTA). This was the fifth consecutive quarter of U.S. public transit ridership increase, as 125.7 million more trips were taken than the first quarter of 2011.

All public transit modes saw increases and several saw significantly high increases. Light rail use increased by 6.7 percent and heavy rail use increased by 5.5 percent. Some public transit systems throughout all the areas of the United States reported record ridership for the first quarter. (i.e. Ann Arbor, MI; Boston, MA; Charlotte, NC; Fort Myers, FL; Indianapolis, IN; Ithaca, NY; New York, NY; Oakland, CA; Olympia, WA; San Diego, CA; and Tampa, FL).

“High gas prices were part of the reason for this large first quarter ridership increase,” said APTA President and CEO Michael Melaniphy. “More and more people are choosing to save money by taking public transportation when gas prices are high.

“As we look for positive signs that the economy is recovering, it’s great to see that we are having record ridership at public transit systems throughout the country. In some regions of our nation, the local economy is rebounding and people are commuting to their new jobs by using public transportation,” said APTA President and CEO Michael Melaniphy, noting that nearly 60 percent of trips taken on public transit are for work commutes.

Pointing out that there are multiple reasons for the high ridership increases in the first quarter, Melaniphy said, “There are a number of reasons why more Americans are using public transportation. For example, public transportation systems are delivering better, reliable service and the use of real time technology, which many systems use, makes it easy for riders to know when the next bus or train will arrive.

“As Congress is negotiating a federal surface transportation bill that is now more than 2 1/2 years overdue, our federal representatives need to act before the June 30 deadline to ensure that public transportation systems will be able to meet the growing demand,” said Melaniphy. “It’s obvious from the surge in public transit ridership in the first quarter that Americans need and want public transportation.”

To see the complete APTA 2011 ridership report, go to: <http://www.apta.com/resources/statistics/Documents/Ridership/2012-q1-ridership-APTA.pdf>

2012 First Quarter Ridership Breakdown

Nationally, light rail (modern streetcars, trolleys, and heritage trolleys) ridership increased 6.7 percent in the first quarter of 2012. Twenty-five of twenty-seven light rail systems reported ridership increases. The ten light rail systems with the highest rates of growth were located in the following cities: Memphis, TN (45.7%); Salt Lake City, UT (34.1%); Seattle, WA – King County DOT (19.4%); Boston, MA (12.6%); Cleveland, OH (10.7%); Houston, TX (10.3%); Seattle, WA – Sound Transit (10.3%); Los Angeles, CA (9.9%); Sacramento, CA (8.5%); and St. Louis, MO (8.2%).

Fourteen out of fifteen heavy rail (subways and elevated trains) systems reported ridership increases. Overall, heavy rail ridership increased by 5.5 percent nationwide. The ten heavy rail systems with the highest first quarter increases in ridership were in the following cities: Cleveland, OH (12.2%); San Francisco, CA (9.7%); Chicago, IL (8.9%); Baltimore, MD (7.8%); Boston, MA (6.4%); Jersey City, NJ (6.1%); New York, NY – MTA New York City Transit (5.6%); Lindenwold, NJ (4.7%); New York, NY – MTA Staten Island Railway (4.5%); and Miami, FL (4.2%).

Nationally, commuter rail ridership increased by 3.9 percent in the first three months of 2012 with twenty-two of twenty-seven commuter rail systems reporting ridership increases. Five commuter rail systems in the following cities saw double digit increases in the first quarter: Anchorage, AK (43.8%); Oceanside, CA (19.2%); San Carlos, CA (15.0%); Portland, OR (11.1%); and Seattle, WA (10.8%). The five commuter rail systems that reported the next highest increases were located in: New Haven, CT (9.7%); Stockton, CA (9.4%); Los Angeles, CA (8.9%); Salt Lake City, UT (8.5%); and Nashville, TN (8.4%).

Large bus systems reported an increase of 4.6 percent nationally. Bus systems in the following cities showed the top ten increases: Saint Louis, MO (15.6%); Dallas, TX (11.9%); Arlington Heights, IL (11.1%); Boston, MA (10.6%); Oakland, CA (10.5%); Ft. Lauderdale, FL (8.7%); Newark, NJ (8.0%); San Antonio, TX (8.0%); Washington, DC (7.9%). and Cleveland, OH (7.8%).

Bus systems in urbanized areas with populations of two million or more grew at 4.5 percent. Growing at an even higher rate of 5.1 percent were bus systems in urbanized areas with populations of 500,000 to just under two million.

Demand response (paratransit) ridership increased by 7.0 percent and trolleybus ridership increased by 3.8 percent.

###

The American Public Transportation Association (APTA) is a nonprofit international association of 1,500 public and private member organizations, engaged in the areas of bus, paratransit, light rail, commuter rail, subways, waterborne services, and intercity and high-speed rail. This includes: transit systems; planning, design, construction, and finance firms; product and service providers; academic institutions; transit associations and state departments of transportation. More than 90 percent of the people using public transportation in the United States and Canada are served by APTA member systems.

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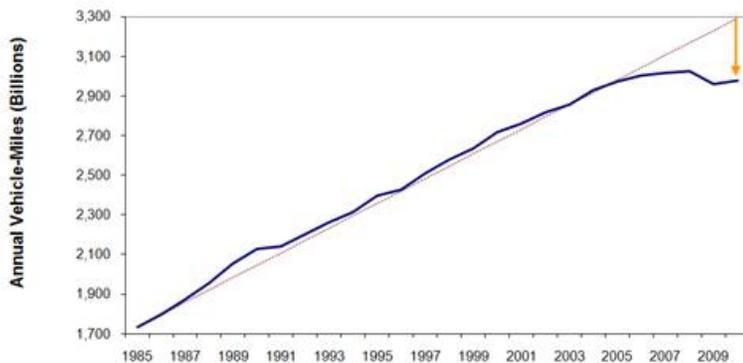
Toward More Comprehensive Understanding of Traffic Congestion



Todd Litman
 Thu, 09/13/2012 - 05: 31
 Tagged:

Conventional planning tends to consider traffic congestion a significant cost and roadway expansion the preferred solution. It evaluates transport system performance based on indicators such as roadway **Level of Service (LOS)** and peak-period traffic speeds, and dedicates most transportation resources (road space and money) to roads and parking facilities. This results in **predict and provide** planning in which roadways are expanded to accommodate anticipated traffic, which creates a self-fulfilling prophecy by inducing additional vehicle use. Current **congestion evaluation methods** are crude and biased, resulting in excessive roadway capacity and a less diverse transportation system than is economically and socially optimal. My new report, **Smart Congestion Relief: Comprehensive Analysis Of Traffic Congestion Costs and Congestion Reduction Benefits** discusses these issues. Let me share highlights.

U.S. Annual Vehicles Mileage Trends (USDOT 2010)



US vehicle travel grew steadily during the Twentieth Century, but has since leveled off despite continued population and economic growth. By 2010 it was about 10% below the long-term trend.

This is a timely issue. Motor vehicle travel grew steadily during the Twentieth Century so it made sense to devote significant resources to roadway expansion. During that period there was little risk of overbuilding since any additional road capacity would eventually fill. However, vehicle travel has peaked (see graph) and **demand for alternatives is increasing** due to demographic and economic trends including aging population, rising fuel prices, urbanization, health and environmental concerns, and changing consumer preferences. This requires more comprehensive evaluation that considers more impacts and options.

Conventional congestion evaluation tend to be biased in various ways, as summarized in the following table. For example, conventional evaluation recognizes that wider roads improve automobile access but ignore their tendency to reduce walking and cycling access (called the **barrier effect**), and it favors a hierarchical road system that has higher-speed arterials over a more connected road system that has lower travel speeds but shorter travel distances. As a result, mobility-based planning can result in congestion reduction strategies that reduce overall accessibility by creating sprawled, automobile-dependent communities where activities are widely dispersed and alternatives to driving are inferior.

Congestion Costing Biases, Impacts and Corrections

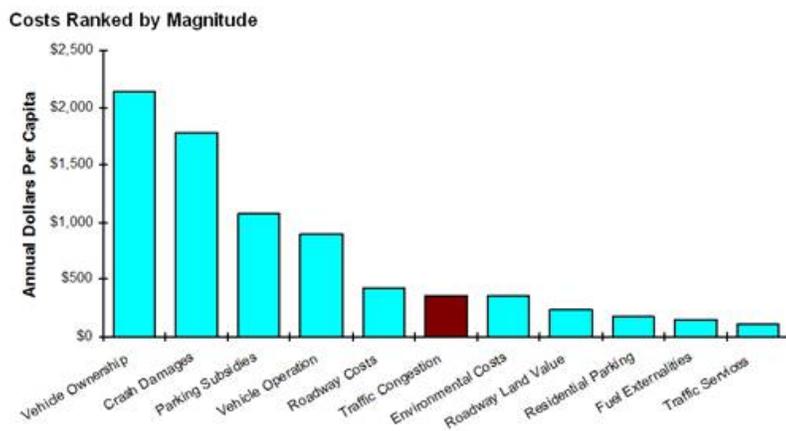
Type of Bias	Planning Impacts	Corrections
Mobility-based planning measures congestion intensity rather than total congestion costs	Favors roadway expansion over other transport improvements	Measure overall accessibility, including per capita congestion costs
Assumes that compact development increases congestion	Encourage automobile-dependent sprawl over more compact, multi-modal infill development	Recognize that smart growth policies can increase accessibility and reduce congestion costs
Only considers impacts on motorists	Favors driving over other modes	Use multi-modal transport system performance indicators
Estimates delay relative to free flow conditions (LOS A)	Results in excessively high estimates of congestion costs	Use realistic baselines (e.g., LOS C) when calculating congestion costs
Applies relatively high travel time cost values	Favors roadway expansion beyond what is really optimal	Test willingness-to-pay for congestion reductions with road tolls
Uses outdated fuel and emission models that exaggerate fuel savings and emission reductions	Exaggerates roadway expansion economic and environmental benefits	Use more accurate models
Ignores congestion equilibrium and the additional costs of induced travel	Exaggerates future congestion problems and roadway expansion benefits	Recognize congestion equilibrium, and account for generated traffic and induced travel costs
Funding and planning biases such as dedicated road funding and minimum parking requirements	Makes road and parking improvements easier to implement than other types of transport improvements	Apply least-cost planning, so transport funds can be used for the most cost-effective solution. Reform minimum parking requirements.
Exaggerated roadway	Encourages roadway	Use critical analysis of

expansion economic productivity gains	expansion over other transport improvements	congestion reduction economic benefits
Considers congestion costs and congestion reduction objectives in isolation	Favors roadway expansion over other congestion reduction strategies	Use a comprehensive evaluation framework that considers all objectives and impacts

This table summarizes common congestion costing biases, their impacts on planning decisions, and corrections for more comprehensive and objective congestion costs.

In recent years transportation professionals have started to develop better tools for evaluating overall [accessibility](#), and [multi-modal performance indicators](#), which allow more comprehensive evaluation of transportation problems and improvement strategies.

Conventional urban transport planning tends to consider traffic congestion the dominant planning problem, but more comprehensive and objective analysis indicates that traffic congestion is actually a moderate cost overall – larger than some but smaller than others – and roadway expansion is generally less effective and beneficial overall than other congestion reduction strategies.



Even using upper-bound estimates, congestion is a moderate cost compared with other transport costs.

Studies such as the Texas Transportation Institute's [Urban Mobility Report](#) conclude that traffic congestion is a major economic cost and roadway expansion can increase economic productivity but these are probably exaggerations. As Professor Eric Dumbaugh pointed out in a recent *Atlantic Cities* magazine article, [Rethinking the Economics of Traffic Congestion](#), economic productivity tends to increase with congestion. This does not actually indicate that increasing congestion *causes* economic development, but it shows that traffic congestion is overall a minor cost that is usually offset by the economic efficiency gains of the increased accessibility provided by more compact and multi-modal development. For example, a business located in a city center has far more potential employees, partners and customers available within a half-hour trip, despite traffic congestion.

Some congestion reduction strategies provide significant co-benefits. Improving alternative modes (particularly [high quality public transit](#)), [improved roadway connectivity](#), [pricing reforms](#) and [smart growth development polices](#) reduce traffic congestion and help achieve other planning objectives. These strategies do not necessarily eliminate congestion, in fact, they may increase congestion intensity, but they can

improve overall accessibility and reduce per capita congestion costs.

Despite frequent complaints about traffic congestion there appears to be insufficient willingness-to-pay for major urban roadway expansion, nor sufficient political support for congestion pricing, indicating that motorists do not really consider it a major problem. Financing highway expansion using other funding sources is economically inefficient and unfair because it forces people who don't use the added capacity to subsidize people who do. Excessive estimates of congestion costs and congestion reduction benefits tend to contradict transport equity objectives: they favor motorists over non-motorists and reduce the quality of transport options available to people who are physically, economically and socially disadvantaged.

This is not to suggest that driving is bad or that roadways should never be improved. However, when all impacts and options are considered, highway expansion is significantly more costly and less beneficial, and alternative congestion reduction strategies are often better, than indicated by conventional project economic evaluations. It is important that decision makers and the general public understand these issues when evaluating solutions to congestion problems.

For More Information

Md Aftabuzzaman, Graham Currie and Majid Sarvi (2011), "[Exploring The Underlying Dimensions Of Elements Affecting Traffic Congestion Relief Impact Of Transit](#)," *Cities*, Vol. 28, Is. 1, February, Pages 36-44.

Robert L. Bertini (2005), [You Are the Traffic Jam: An Examination of Congestion Measures](#), Department of Civil & Environmental Engineering, Portland State University, presented at the Transportation Research Board Annual Meeting.

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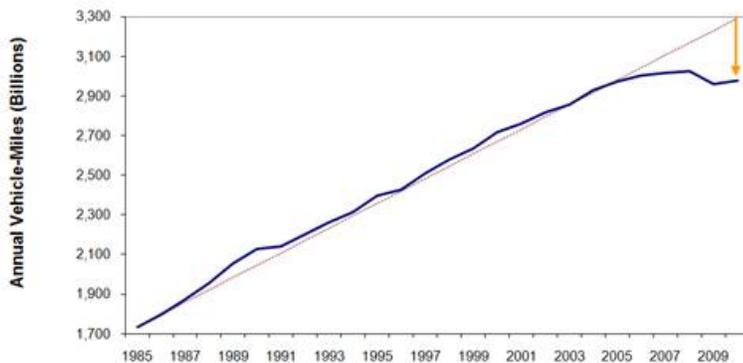
Toward More Comprehensive Understanding of Traffic Congestion



Todd Litman
 Thu, 09/13/2012 - 05: 31
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Conventional planning tends to consider traffic congestion a significant cost and roadway expansion the preferred solution. It evaluates transport system performance based on indicators such as roadway **Level of Service (LOS)** and peak-period traffic speeds, and dedicates most transportation resources (road space and money) to roads and parking facilities. This results in **predict and provide** planning in which roadways are expanded to accommodate anticipated traffic, which creates a self-fulfilling prophecy by inducing additional vehicle use. Current **congestion evaluation methods** are crude and biased, resulting in excessive roadway capacity and a less diverse transportation system than is economically and socially optimal. My new report, **Smart Congestion Relief: Comprehensive Analysis Of Traffic Congestion Costs and Congestion Reduction Benefits** discusses these issues. Let me share highlights.

U.S. Annual Vehicles Mileage Trends (USDOT 2010)



US vehicle travel grew steadily during the Twentieth Century, but has since leveled off despite continued population and economic growth. By 2010 it was about 10% below the long-term trend.

This is a timely issue. Motor vehicle travel grew steadily during the Twentieth Century so it made sense to devote significant resources to roadway expansion. During that period there was little risk of overbuilding since any additional road capacity would eventually fill. However, vehicle travel has peaked (see graph) and **demand for alternatives is increasing** due to demographic and economic trends including aging population, rising fuel prices, urbanization, health and environmental concerns, and changing consumer preferences. This requires more comprehensive evaluation that considers more impacts and options.

Conventional congestion evaluation tend to be biased in various ways, as summarized in the following table. For example, conventional evaluation recognizes that wider roads improve automobile access but ignore their tendency to reduce walking and cycling access (called the **barrier effect**), and it favors a hierarchical road system that has higher-speed arterials over a more connected road system that has lower travel speeds but shorter travel distances. As a result, mobility-based planning can result in congestion reduction strategies that reduce overall accessibility by creating sprawled, automobile-dependent communities where activities are widely dispersed and alternatives to driving are inferior.

Congestion Costing Biases, Impacts and Corrections

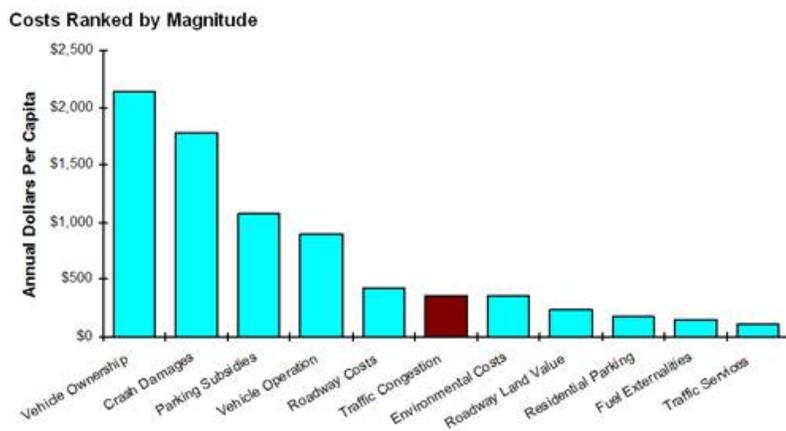
Type of Bias	Planning Impacts	Corrections
Mobility-based planning measures congestion intensity rather than total congestion costs	Favors roadway expansion over other transport improvements	Measure overall accessibility, including per capita congestion costs
Assumes that compact development increases congestion	Encourage automobile-dependent sprawl over more compact, multi-modal infill development	Recognize that smart growth policies can increase accessibility and reduce congestion costs
Only considers impacts on motorists	Favors driving over other modes	Use multi-modal transport system performance indicators
Estimates delay relative to free flow conditions (LOS A)	Results in excessively high estimates of congestion costs	Use realistic baselines (e.g., LOS C) when calculating congestion costs
Applies relatively high travel time cost values	Favors roadway expansion beyond what is really optimal	Test willingness-to-pay for congestion reductions with road tolls
Uses outdated fuel and emission models that exaggerate fuel savings and emission reductions	Exaggerates roadway expansion economic and environmental benefits	Use more accurate models
Ignores congestion equilibrium and the additional costs of induced travel	Exaggerates future congestion problems and roadway expansion benefits	Recognize congestion equilibrium, and account for generated traffic and induced travel costs
Funding and planning biases such as dedicated road funding and minimum parking requirements	Makes road and parking improvements easier to implement than other types of transport improvements	Apply least-cost planning, so transport funds can be used for the most cost-effective solution. Reform minimum parking requirements.
Exaggerated roadway	Encourages roadway	Use critical analysis of

expansion economic productivity gains	expansion over other transport improvements	congestion reduction economic benefits
Considers congestion costs and congestion reduction objectives in isolation	Favors roadway expansion over other congestion reduction strategies	Use a comprehensive evaluation framework that considers all objectives and impacts

This table summarizes common congestion costing biases, their impacts on planning decisions, and corrections for more comprehensive and objective congestion costs.

In recent years transportation professionals have started to develop better tools for evaluating overall [accessibility](#), and [multi-modal performance indicators](#), which allow more comprehensive evaluation of transportation problems and improvement strategies.

Conventional urban transport planning tends to consider traffic congestion the dominant planning problem, but more comprehensive and objective analysis indicates that traffic congestion is actually a moderate cost overall – larger than some but smaller than others – and roadway expansion is generally less effective and beneficial overall than other congestion reduction strategies.



Even using upper-bound estimates, congestion is a moderate cost compared with other transport costs.

Studies such as the Texas Transportation Institute's [Urban Mobility Report](#) conclude that traffic congestion is a major economic cost and roadway expansion can increase economic productivity but these are probably exaggerations. As Professor Eric Dumbaugh pointed out in a recent *Atlantic Cities* magazine article, [Rethinking the Economics of Traffic Congestion](#), economic productivity tends to increase with congestion. This does not actually indicate that increasing congestion *causes* economic development, but it shows that traffic congestion is overall a minor cost that is usually offset by the economic efficiency gains of the increased accessibility provided by more compact and multi-modal development. For example, a business located in a city center has far more potential employees, partners and customers available within a half-hour trip, despite traffic congestion.

Some congestion reduction strategies provide significant co-benefits. Improving alternative modes (particularly [high quality public transit](#)), [improved roadway connectivity](#), [pricing reforms](#) and [smart growth development polices](#) reduce traffic congestion and help achieve other planning objectives. These strategies do not necessarily eliminate congestion, in fact, they may increase congestion intensity, but they can

improve overall accessibility and reduce per capita congestion costs.

Despite frequent complaints about traffic congestion there appears to be insufficient willingness-to-pay for major urban roadway expansion, nor sufficient political support for congestion pricing, indicating that motorists do not really consider it a major problem. Financing highway expansion using other funding sources is economically inefficient and unfair because it forces people who don't use the added capacity to subsidize people who do. Excessive estimates of congestion costs and congestion reduction benefits tend to contradict transport equity objectives: they favor motorists over non-motorists and reduce the quality of transport options available to people who are physically, economically and socially disadvantaged.

This is not to suggest that driving is bad or that roadways should never be improved. However, when all impacts and options are considered, highway expansion is significantly more costly and less beneficial, and alternative congestion reduction strategies are often better, than indicated by conventional project economic evaluations. It is important that decision makers and the general public understand these issues when evaluating solutions to congestion problems.

For More Information

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The Future Isn't What It Used To Be

Changing Trends And Their Implications For Transport Planning

7 October 2012

By Todd Litman
Victoria Transport Policy Institute



Future transportation envisioned by Fred Strothman in 1900.

Abstract

This report investigates how current demographic and economic trends are affecting transport demands (the amount and type of travel people would choose), and their implications for planning. The Twentieth Century was the period of automobile ascendancy during which vehicle travel grew steadily. Current trends (aging population, rising fuel prices, increasing urbanization, increasing traffic congestion, improving travel options, increasing health and environmental concerns, and changing consumer preferences) are reducing automobile travel demand and increasing demands for alternatives. Per capita vehicle travel has peaked in most developed countries. Future transport demands will be increasingly diverse. Although automobile travel will not disappear, at the margin (compared with current travel patterns) many people would prefer to drive less and rely more on walking, cycling, public transport and telework, provided those options are convenient, comfortable and affordable. This paper discusses changes required in transport policies and planning practices necessary to respond to future demands.

Previously published as
Todd Litman (2006), "Changing Travel Demand: Implications for Transport Planning,"
ITE Journal, Vol. 76, No. 9, (www.ite.org), September, pp. 27-33.

Todd Litman © 2005-2011

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Past Visions of Future Transportation



1939 Futurama



1949 ConvAIRCAR Flying Car



1958 Ford Firebird III, which included the "Autoglide" automated guidance system.



1961 Bell Rocket Belt

Transportation and the New Generation

Why Young People Are Driving Less
and What It Means for Transportation Policy

Frontier Group

U.S. PIRG Education Fund

Benjamin Davis and Tony Dutzik,
Frontier Group

Phineas Baxandall,
U.S. PIRG Education Fund

April 2012

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Executive Summary

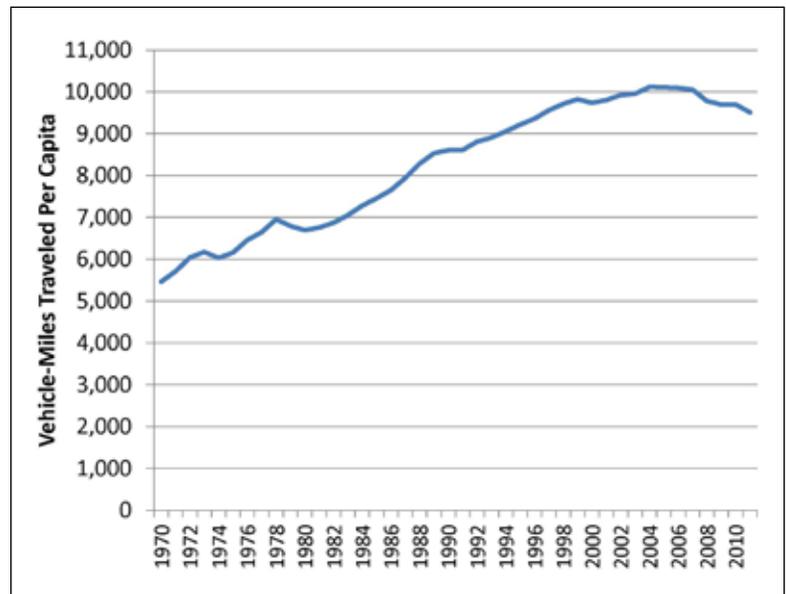
From World War II until just a few years ago, the number of miles driven annually on America's roads steadily increased. Then, at the turn of the century, something changed: Americans began driving less. **By 2011, the average American was driving 6 percent fewer miles per year than in 2004.** (See Figure ES-1.)

The trend away from driving has been led by young people. **From 2001 to 2009, the average annual number of vehicle-miles traveled by young people (16 to 34-year-olds) decreased from 10,300 miles to 7,900 miles per capita—a drop of 23 percent.** The trend away from steady growth in driving is likely to be long-lasting—even once the economy recovers. Young people are driving less for a host of reasons—higher gas prices, new licensing laws, improvements in technology that support alternative transportation, and changes in Generation Y's values and preferences—all factors that are likely to have an impact for years to come.

Federal and local governments have historically made massive investments in new highway capacity on the assumption that driving will continue to increase at a rapid

and steady pace. The changing transportation preferences of young people—and Americans overall—throw those assumptions into doubt. The time has come for transportation policy to reflect the needs and desires of today's Americans—not the worn-out conventional wisdom from days gone by.

Figure ES-1: Vehicle-Miles Traveled Per Capita Peaked in 2004



America's young people are decreasing the amount they drive and increasing their use of transportation alternatives.

- According to the National Household Travel Survey, from 2001 to 2009, the annual number of vehicle-miles traveled by young people (16 to 34-year-olds) decreased from 10,300 miles to 7,900 miles per capita—a drop of 23 percent.
- In 2009, 16 to 34-year-olds as a whole took 24 percent more bike trips than they took in 2001, despite the age group actually shrinking in size by 2 percent.
- In 2009, 16 to 34-year-olds walked to destinations 16 percent more frequently than did 16 to 34-year-olds living in 2001.
- From 2001 to 2009, the number of passenger-miles traveled by 16 to 34-year-olds on public transit increased by 40 percent.
- According to Federal Highway Administration, from 2000 to 2010, the share of 14 to 34-year-olds without a driver's license increased from 21 percent to 26 percent.

Young people's transportation priorities and preferences differ from those of older generations.

- Many young people choose to replace driving with alternative transportation. According to a recent survey by KRC Research and Zipcar, 45 percent of young people (18-34 years old) polled said they have consciously made an effort to replace driving with transportation alternatives—this is compared with approximately 32 percent of all older populations.

- Many of America's youth prefer to live places where they can easily walk, bike, and take public transportation. According to a recent study by the National Association for Realtors, young people are the generation most likely to prefer to live in an area characterized by nearby shopping, restaurants, schools, and public transportation as opposed to sprawl.
- Some young people purposely reduce their driving in an effort to curb their environmental impact. In the KRC Zipcar survey, 16 percent of 18 to 34-year-olds polled said they strongly agreed with the statement, "I want to protect the environment, so I drive less." This is compared to approximately 9 percent of older generations.

The trend toward reduced driving among young people is likely to persist as a result of technological changes and increased legal and financial barriers to driving.

- *Technology:*
 - Communications technology, which provides young people with new social networking and recreational possibilities, has become a substitute for some car trips.
 - Improvements in technology make transportation alternatives more convenient. Websites and smart phone apps that provide real-time transit data make public transportation easier to use, particularly for infrequent users. Meanwhile, technology has opened the door for new transportation alternatives, such as the car-sharing and bike-sharing services that have taken root in numerous American cities.

- Public transportation is more compatible with a lifestyle based on mobility and peer-to-peer connectivity than driving. Bus and train riders can often talk on the phone, text or work safely while riding, while many state governments are outlawing using mobile devices while driving. Currently, 35 states have outlawed texting while driving, and nine states have outlawed handheld cell phone use while driving. These bans may not be enough to ensure safety—in December 2011 the National Transportation Safety Board recommended banning cell phone use while driving entirely.
- *Changes in driving laws:* From 1996 to 2006, every state enacted Graduated Drivers' Licensing (GDL) laws. GDL laws, which are designed to keep young people safe, also make obtaining a driver's license more challenging. Young people must now take more behind-the-wheel training (which is more expensive), fulfill additional requirements for permits, and once they are allowed to drive, they are often restricted to driving in the daytime without passengers. GDL laws are likely to remain in effect—and continue to be a deterrent to young people to apply for licenses—because they have been successful in keeping young drivers safe.
- *Increased fuel prices:* Increased fuel prices have made driving more expensive, reducing the frequency with which people—especially younger people with less disposable income—travel in cars. The average cost for filling up the tank in 2001 was \$1,100 for the year (in 2011 dollars). With gasoline prices soaring since then,

filling up the same tank today costs \$2,300. While gasoline prices often fluctuate, they are unlikely to return to the low levels of 1980s or 1990s. According to the U.S. Energy Information Administration's projections, gas prices are expected to increase by 26 percent from 2010 to 2020.

The recession has played a role in reducing the miles driven in America, especially by young people. People who are unemployed or underemployed have difficulty affording cars, commute to work less frequently if at all, and have less disposable income to spend on traveling for vacation and other entertainment. **The trend toward reduced driving, however, has occurred even among young people who are employed and/or are doing well financially.**

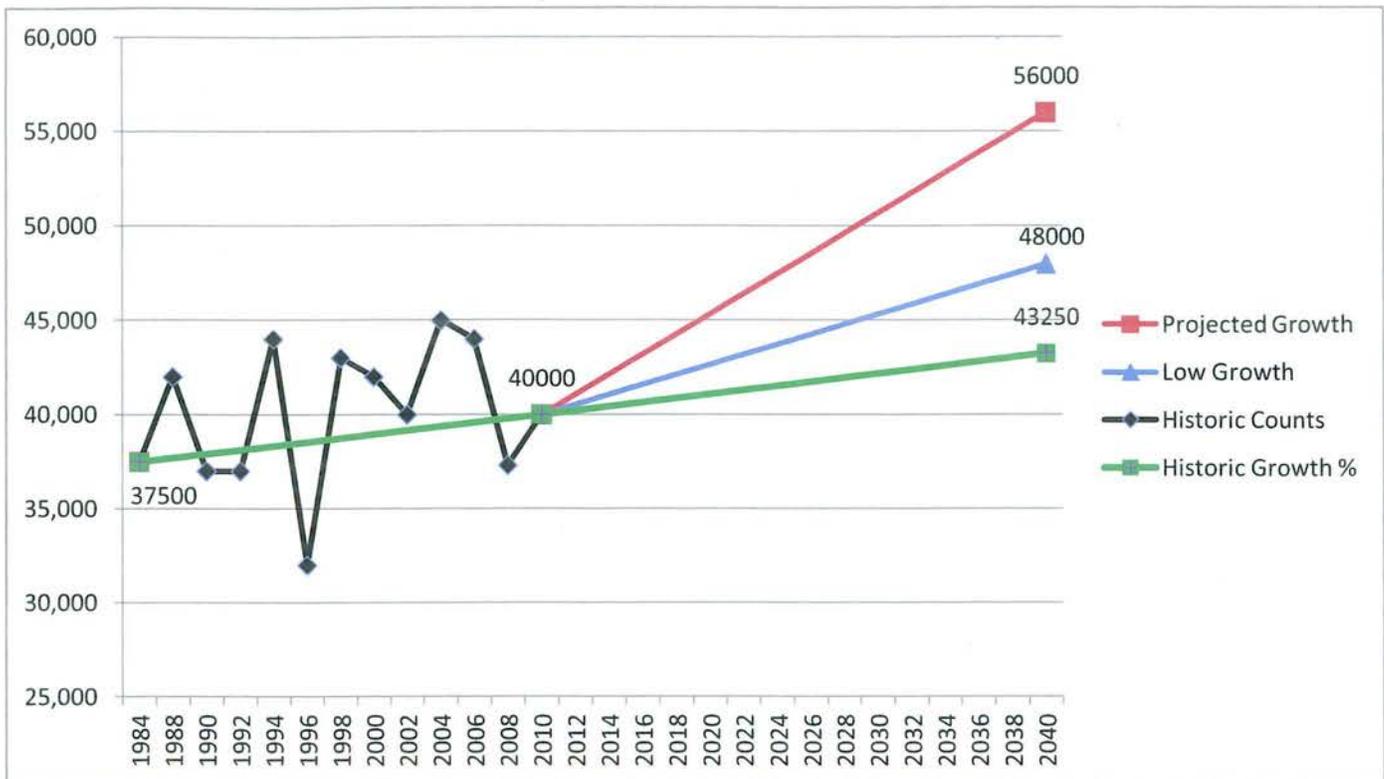
- The average young person (age 16-34) with a job drove 10,700 miles in 2009, compared with 12,800 miles in 2001.
- From 2001 to 2009, young people (16 to 34-years-old) who lived in households with annual incomes of over \$70,000 increased their use of public transit by 100 percent, biking by 122 percent, and walking by 37 percent.

America has long created transportation policy under the assumption that driving will continue to increase at a rapid and steady rate. The changing transportation preferences of young people—and Americans overall—throw that assumption into doubt. **Policy-makers and the public need to be aware that America's current transportation policy—dominated by road building—is fundamentally out-of-step with the transportation patterns and expressed preferences of growing numbers of Americans. It**

is time for policy-makers to consider the implication of changes in driving habits for the nation's transportation infrastructure decisions and funding practices, and

consider a new vision for transportation policy that reflects the needs of 21st century America.

Broadway Blvd Traffic Counts & Projections¹



- 1984 to 2010 (26 years) = increase of 2,500 ADT
- Traffic Model Projection 2010 to 2040 (30 years) = increase of 16,000 ADT (???)

Doesn't reflect recent research on new transportation trends

1. AZDOT Study – Compact, Mixed –use Development Leads to Less Traffic (May 2012)
2. Has the US Reached Peak Car (Scientific American, July 2012)
3. Public Transportation Ridership Use Surged in First Quarter 2012 (American Public Transportation Association, June 2012)
4. The Future Isn't What It Used To Be; Changing Trends and Their Implications for Transport Planning (Abstract, Victoria Transport Policy Institute, July 2012)
5. Transportation and the New Generation; Why Young People are Driving Less and What it Means for Transportation Policy (Executive Summary, Frontier Group/US PIRG Education Fund, April 2012)
6. Increase in number of Americans Working from home: Home-based Workers in Tucson increased (2005-2010) from 3.9% to 5.6% (U.S. Census Current Population Reports P70-132. October 2012).

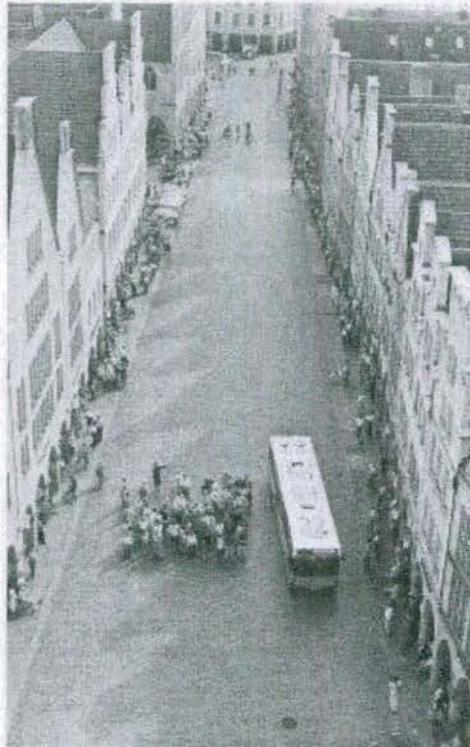
¹ Campbell to Tucson; 1987 Parsons Brinckerhoff & 2012 Kittelson & Assoc (Summary Analysis)

*received on 10/18/2012
from Colby Henley/
Broadway Coalition*

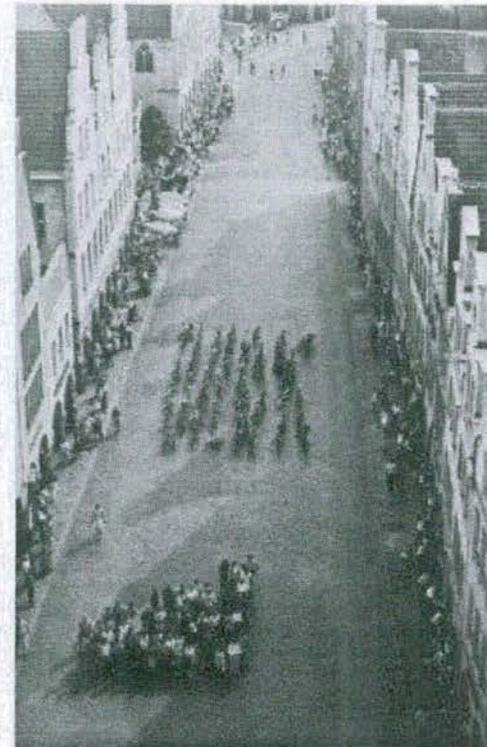
Amount of space required to transport the same number of passengers by car, bus or bicycle.



Car?



Bus?



Bicycle?

(Poster in city of Muenster Planning Office, August 2001)

Credit: Press-Office City of Münster, Germany

ARE WE RESPONDING TO TRAFFIC OR ARE WE INFLUENCING TRAFFIC?