

**CITY OF BOULDER
TRANSPORTATION ADVISORY BOARD
STAFF BRIEFING**

MEETING DATE: November 14, 2016

AGENDA TITLE: Staff briefing and TAB input regarding Transportation Demand Management Plans for New Development - Evaluation Report

PRESENTER/S: Michael Gardner-Sweeney, Director of Public Works for Transportation
Kathleen Bracke, GO Boulder Manager
Chris Hagelin, Senior Transportation Planner

EXECUTIVE SUMMARY:

As part of the city's implementation of the Transportation Master Plan (TMP) and the Access Management and Parking Strategy (AMPS) integrated work program, staff has been working on a potential Transportation Demand Management (TDM) Plan ordinance for new developments in conjunction with possible changes to the city's parking requirements.

Following feedback from Planning Board and Council in 2015, staff was asked to collect more data on parking supply and demand at residential and commercial developments in 2016. In addition, staff collected data to evaluate the effectiveness of a sample of existing TDM Plans that have been implemented through the city's development review process over the years. The primary reasons for conducting this evaluation are to determine if the existing TDM Plans are being implemented and to understand their impact on the travel behavior of residents or employees at those developments.

Staff surveyed nine commercial and seven residential developments that were required to submit TDM Plans after going through the city's Site Review process. All developments have been completed and occupied before 2008. Employers and property managers were interviewed and employees and residents were surveyed.

The resulting report clearly shows that there is a disconnect between what the developers are required to do and what is communicated to the future tenants and property managers regarding on-going responsibilities for offering and monitoring the on-site TDM programs. Requirements that are tied to capital infrastructure or financial guarantees have been implemented at a higher rate than the requirements that rely on the tenant/property management company implementing a program or service for its employees or residents over time.

The survey results show that the percent of peak hour SOV work trips by residents are comparable to the city as a whole at 49 percent, but SOV peak hour work trips by

employees are significantly higher and comparable to the average SOV mode share for our non-resident employees at 80 percent.

The report also highlights the difficulty of conducting evaluations with tenants that are unaware of requirements and do not have a means to distribute surveys electronically. Despite providing incentives to respond to the surveys, response rates were generally low which, in turn, impacts the reliability of survey results due to high sampling errors.

Based on this TDM Plan assessment, the city will design the proposed TDM Plan ordinance for city council to consider in early 2017. The proposed ordinance will need to be designed to assist developers with communicating requirements to future tenants/property managers/owners; identify ways to require higher survey response rates and other TDM monitoring programs; and mechanisms to tie the ordinance to the property and future tenants after the developer fulfills their initial requirements. Staff will also need to develop an internal database to monitor TDM Plan implementation and evaluate effectiveness and long-term compliance with the city's TDM Plan requirements over time.

The report, City of Boulder Developer TDM Evaluation is provided as **Attachment A**.

BACKGROUND:

The purpose of requiring TDM Plans for new development as part of the city's Site Review process - and for monitoring implementation and evaluation over time - is to meet the goals and objectives of the Boulder Valley Comprehensive Plan, the city's Sustainability Framework, Boulder's TMP and AMPS.

The intent is to create an effective TDM Plan ordinance for new developments that can be administered, monitored, and enforced over time as well as update the TDM "Toolkit". The TDM Toolkit is used by the city's Transportation and Planning, Housing, & Sustainability staff as well as the development applicants to plan and implement a set of policies, programs, facilities, and strategies to mitigate traffic impacts of new development or redevelopment projects as part of the Site Review process.

The purpose of having a TDM Plan ordinance is to require new developments to meet specific goals related to reducing their impacts on the city's transportation system and ensure compliance. Under the existing system, outlined by Section 9-2-14(h)(2)(D)(iv)(v) of the Boulder Revised Code, TDM Plans are submitted by the developer, but the city does not have legal means to enforce them or require changes in the plan if it is ineffective.

At this point in the planning process, staff has worked with TAB, Planning Board and City Council to seek input to assist with designing a TDM Plan ordinance and develop preliminary options or considerations for several of the key components of the ordinance including:

- Selecting the measurable objectives which determine compliance
- Setting target levels based on size and location
- Establishing triggers and thresholds based on development size
- Identifying required TDM Plan elements

- Monitoring duration and enforcement; and
- Funding and staffing requirements.

Attachment B provides an overview of the current status of each of the above ordinance design elements based on prior input from staff, TAB, Planning Board, and City Council.

ANALYSIS:

The following analysis is based on the report from UrbanTrans. The surveys were conducted over several months in the spring and summer of 2016. The properties surveyed included a variety of land use types including commercial and residential:

- | | |
|---|--------------------------|
| • Boulder Community Hospital (Foothills Campus) | • Hampton Inn |
| • Crossroads Commons (Whole Foods) | • The Lofts at Peloton |
| • Walgreens | • 9Seventy |
| • Trader Joe's | • High Mar |
| • Avery Brewing | • Red Oak Park |
| • Morningstar Senior Living | • Two Nine North |
| | • Lumine |
| | • Boulder View Apartment |

The key findings include:

Implementation of TDM commitments

- By and large, the TDM commitments under control of the developer, such as bike parking and the provision of Eco Passes for three years, which requires depositing funds into an account, were implemented.
- TDM commitments that required knowledge by and collaboration with the employer or property/home owner's association (HOA) management, particularly those requiring ongoing engagement, were less likely to be implemented.

Awareness of TDM commitments

- Obtaining the right contact at employers and property management firms proved much more difficult and time consuming than expected, partially due to high turnover in property management, retail, and hospitality fields.
- The majority of contacts did not appear to be aware of the TDM commitments made by the developer. EcoPass commitments were the exception.

Survey participation

- All but one contact agreed to be interviewed or to answer questions via email about the TDM supportive infrastructure and programs offered onsite.
- Though almost all properties agreed to periodic survey participation as part of their TDM Plan, few had mechanisms or policies in place that would allow for efficient distribution and collection of surveys. Three residential sites and one commercial site did not participate in the survey.
- Only one employer had the ability to require employees to take the survey.
- Only one residential property was able and willing to send the survey out via email.
- Retail establishments, hotels, and residential properties were difficult to survey, because of the large number of part-time employees, lack of company email addresses,

restrictions on email use to reach residents or lack of emails on file, and other. However, engaged store managers at Whole Foods and Trader Joe's succeeded in getting a high response rate from their staff.

- Survey participation at Trader Joe's and Boulder Community Hospital was high enough to yield results that are statistically significant at the 95 percent confidence level and 5 percent margin of error. Results at Whole Foods are statistically significant at the 95 percent confidence level and 10 percent margin of error. Survey samples at all other sites were too small to yield statistically significant results.

Survey results

- The drive alone rate at residential sites averaged 49 percent for employed residents.
- The percentage of residents leaving home to go to work between 6:00 A.M. and 9:00 A.M. averaged 54 percent for employed residents and 54 percent for residents who are not employed. It ranged from 40 percent to 66 percent by residential site.
- The drive alone rate at employment sites averaged 79.6 percent and ranged from 49 percent at Avery Brewing to 84 percent at Boulder Community Hospital.
- Fifty-seven percent of surveyed employees reported parking to be very easy or easy to find, 15 percent found it difficult, and four percent found it very difficult. The only site that received a parking reduction, Walgreens, did not participate in the survey.
- Residents and employees were generally aware of the infrastructure and services that are available to them.

Recommendations

The following are draft recommendations to be considered for designing the TDM Plan ordinance and Toolkit:

Existing properties

- Develop and maintain a city database of TDM commitments by property, including current contacts.
- Provide a resource section on the city's GO Boulder website aimed at assisting developers, tenants, property managers/owners with TDM program implementation and monitoring.
- Provide an online training/webinar aimed at employers and property managers to educate them about TDM Plan requirements and how to implement and monitor programs to be in compliance with city requirements.

Future development

- Require new development projects to join local Transportation Management Associations (TMA) such as Boulder Transportation Connections and 36 Commuting Solutions. Require on-going membership and involvement by developer and all future employer representatives or property managers.

- Require that TMA membership requirement runs with the land when sold or leased through Covenants, Conditions and Restrictions (CC&Rs), which are limits and rules placed on a development by the developer.
- Develop and implement and on-going monitoring and reporting process to the city (For example, annually for the first three years and then every three years on an on-going basis).
- Specifically require that employers with more than 100 employees assist with a travel survey of their employees and achieve a response rate that is statistically significant at the 95% confidence level and 5% margin of error.
- Implement a city work flow tracking process that ensures that approved TDM Plans and commitments get captured in database.

Based on the report findings and recommendations, staff will be making adjustments to the proposed TDM Plan ordinance design and bring this forward for Board and City Council consideration in early 2017. Staff will develop a database to track existing and future TDM Plans, establish a method to assist developers in communicating requirements to future tenants, identify ways to require high response rates, and work with the City Attorney's Office to determine how to tie the ordinance to the property and future tenants after the developer fulfills their initial requirements.

NEXT STEPS:

Staff will present this information to Planning Board and City Council and staff will use this new information to further develop and modify design the TDM Plan ordinance.

Attachments

- A. City of Boulder Developer TDM Evaluation
- B. TDM Plan ordinance design elements/background

Attachment A:

City of Boulder Developer TDM Evaluation

UrbanTrans North America

August 11, 2016

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TDM Evaluation

Introduction

In order to assess to what extent developer TDM plans are being implemented and how effective they are in influencing travel behavior, an evaluation of seven residential and seven commercial development sites was performed. All developments have been completed and occupied since 2008. The goal of the evaluation process was to determine which TDM commitments had been implemented and to measure the travel behavior of residents and employees at the 14 sites. The sites included:

- Boulder Community Hospital (Foothills Campus)
- Crossroads Commons (Whole Foods)
- Walgreens
- Trader Joe's
- Avery Brewing
- Morningstar Senior Living
- Hampton Inn
- The Lofts at Peloton
- 9Seventy
- High Mar
- Red Oak Park
- Two Nine North
- Lumine
- Boulder View Apartments

Process

In order to determine which TDM infrastructure and services were implemented, the UrbanTrans team conducted interviews with six employers and seven property/home owners associations (HOA) management representatives. Where possible, surveys were administered to determine the travel behavior of residents and employees. Surveys were distributed and collected at four residential sites and five employer sites. They were made available online and in paper format and were translated into Spanish for some of the sites. A copy of the survey tool is available in Appendix A.

Key Findings

Implementation of TDM commitments

- By and large, the TDM commitments under control of the developer, such as bike parking and the provision of Eco-Passes, which requires depositing funds into an account, were implemented at each site.
- TDM commitments that required knowledge by and collaboration of the employer or property/home owner's association (HOA) management, particularly those requiring ongoing engagement, were less likely to be implemented.

Awareness of TDM commitments

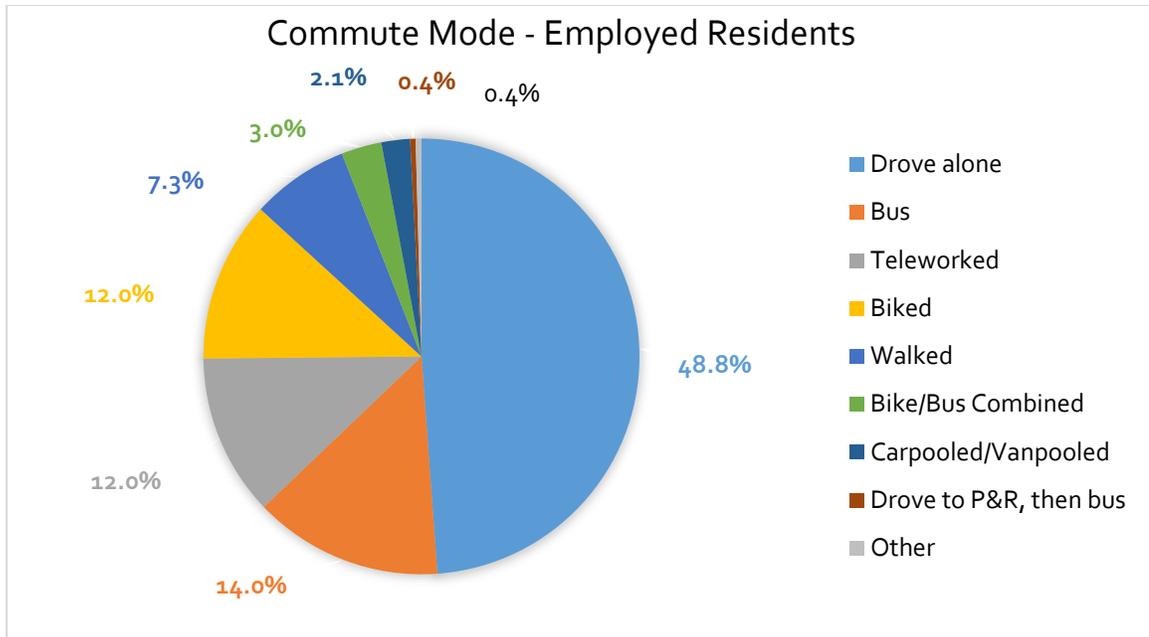
- Obtaining the right contact at employers and property management firms proved much more difficult and time consuming than expected, partially due to high turnover in property management, retail, and hospitality fields.
- The majority of contacts did not appear to be aware of the TDM commitments made by the developer. EcoPass commitments were the exception.

Survey participation

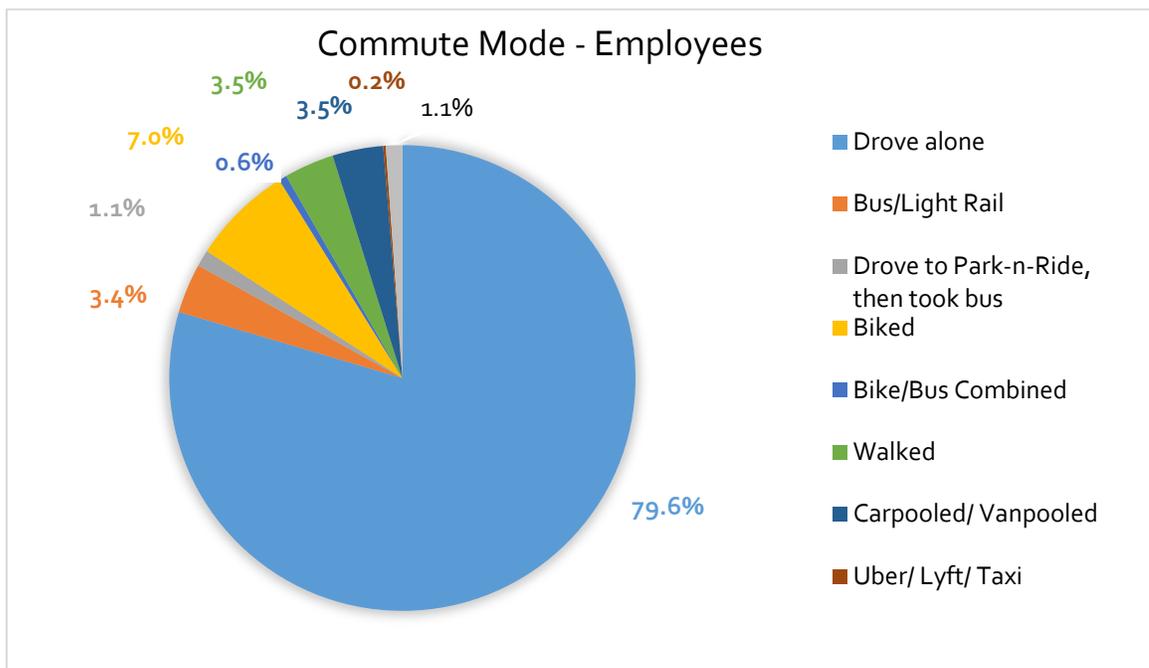
- All but one contact agreed to be interviewed or to answer questions via email about the TDM supportive infrastructure and programs offered onsite.
- Though almost all properties agreed to periodic survey participation as part of their TDM plan, few had mechanisms or policies in place that would allow for efficient distribution and collection of surveys. Three residential sites and one commercial site did not participate in the survey.
- Only one employer had the ability to require employees to take the survey.
- Only one residential property was able and willing to send the survey out via email.
- Retail establishments, hotels, and residential properties were difficult to survey, because of the large number of part-time employees, lack of company email addresses, restrictions on email use to reach residents or lack of emails on file, and other. However, engaged store managers at Whole Foods and Trader Joe's succeeded in getting a high response rate from their staff.
- Survey participation at Trader Joe's and Boulder Community Hospital was high enough to yield results that are statistically significant at the 95 percent confidence level and 5 percent margin of error. Results at Whole Foods are statistically significant at the 95 percent confidence level and 10 percent margin of error. Survey samples at all other sites were too small to yield statistically significant results.

Survey results

- The drive alone rate at residential sites averaged 49 percent for employed residents. Among those residents who were not employed and left the home between 6:00 A.M. and 9:00 A. M. during the survey week, 31 percent drove alone.



- The percentage of residents leaving home to go to work between 6:00 A.M. and 9:00 A.M. averaged 54 percent for employed residents and 54 percent for residents who are not employed. It ranged from 40 percent to 66 percent by residential site.
- The drive alone rate at employment sites averaged 79.6 percent and ranged from 49 percent at Avery Brewing to 84 percent at Boulder Community Hospital.



- The percentage of employees arriving at work between 6:00 A.M. and 9:00 A.M. averaged 66 percent and ranged from 17.5 percent to 71 percent by worksite.
- Fifty-seven percent of surveyed employees reported parking to be very easy or easy to find, 15 percent found it difficult, and four percent found it very difficult. The only site that received a parking reduction, Walgreens, did not participate in the survey.
- Residents and employees were generally aware of the infrastructure and services that are available to them.

Conclusions

- There appears to be a breakdown in the communication of TDM plan commitments between developer and property manager/employer tenants. There is currently no mechanism in place that ensures that the requirements are properly communicated and understood, not only by the initial property manager or employer tenants, but also by successors.

Draft Recommendations

The following are draft recommendations to be considered for future changes to the developer TDM program.

Existing properties

- Develop and maintain a database of TDM commitments by property, including current contacts.
- Provide a resource section on the GoBoulder website aimed at TDM implementation that is easy to find.
- Provide an online training/webinar aimed at employers and property managers to educate them about TDM requirements and how to comply.

Future development

- Require TMA membership and involvement by developer and all future employer representatives or property managers.
- Require that TMA membership requirement runs with the land when sold or leased through CC&Rs.
- Consider requiring periodic reporting of TDM activities.
- Implement a work flow that ensures that approved TDM plans and commitments get captured in database.
- Rephrase survey requirement to more specifically require that employers with more than 100 employees should assist with a travel survey of their employees and achieve a response rate that is statistically significant at the 95% confidence level and 5% margin of error.

Development Site Profiles

Residential Properties

Red Oak Park

Red Oak Park is a development located at 2637 Valmont Road near the intersection with Folsom Street. It has a total of 79 units – 28 single-family residences and 51 multi-family dwelling units. The site was developed and is managed by Boulder Housing Partners and all units are part of the City of Boulder’s affordable housing program. Permitting took place in 2008. Construction was completed and units occupied in June 2011.

As part of the permitting process Boulder Housing Partners committed to:

- Provide bicycle parking and work with Boulder CarShare (eGo carshare) to provide bikes for bike share.
- Work with RTD to provide a bus stop and amenities in the immediate vicinity on Valmont Road at such time as bus service is provided on Valmont Road.
- Provide Eco-Passes to employees and residents of the site for three years starting at occupancy.

A 15% drive alone reduction was projected for the site.

As of Spring 2016, the following is being or has been provided to residents at Red Oak Park:

- Residents are being informed about online resources GO Boulder offers.
- Outdoor bike racks have been installed and are well utilized. In addition a bike fix-it station is available to residents. Residents have the option of storing their bicycles inside their units or on their balconies and porches.
- Eco-passes were provided at no costs to residents for two years. The reason they were not provided for three years was that the site was not adjacent to an existing Eco-Pass district and therefore RTD charged approximately twice the usual amount (usually it amounts to about \$175 per year per resident). Passes were provided to the majority of residents during those two years.
- Boulder Housing Partners tried to set up a program subsidizing eGo carshare memberships, however, the demand was not high enough to implement it. There is a carshare vehicle onsite.
- There is currently no B-Cycle bike share station in the immediate vicinity of the site.
- There is no bus service provided on Valmont Road near the site.

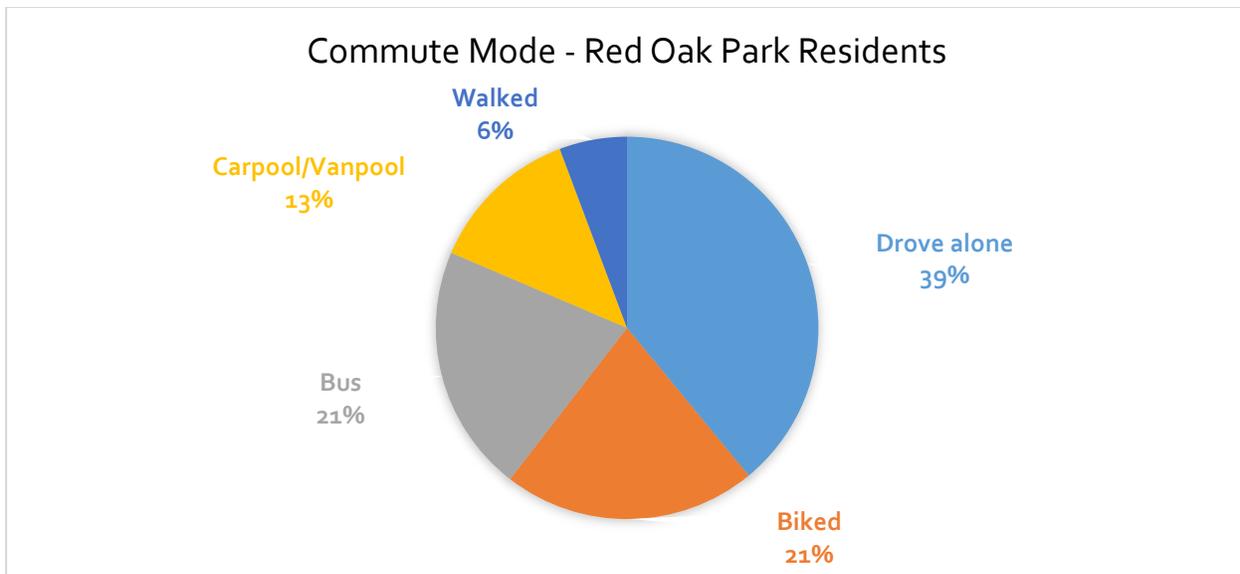
Red Oak Park Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Provide bicycle parking	Outdoor bike racks installed and well utilized. Bike fix-it station installed. Residents can also store bikes inside their units or on balconies and porches.
Work with Boulder CarShare (now eGo Carshare) to provide bikes for bikesharing	There is no bikesharing available (no B-Cycle station nearby).
Work with RTD to provide a bus stop and amenities in the immediate vicinity on Valmont Road at such time as bus service is provided on Valmont Road.	Bus service is not currently provided on Valmont Road.
Provide EcoPasses for employees and residents for 3 years starting at occupancy	EcoPasses were provided to residents for 2 years at no cost to them (cost per person was higher than anticipated, no funding for third year).
	New residents receive information about GO Boulder web resources.
	Carshare vehicle available onsite.
	Boulder Housing Partners tried setting up subsidies for eGo carshare membership, but the demand was not high enough.

The site is served by surface parking, in addition to which street parking is available nearby. According to Boulder Housing Partners there is sufficient parking available.

Red Oak Park participated in the survey with the following results:

- Eight individuals completed a survey.
- All but one respondent are employed.
- Fifty-seven percent of employed respondents left the house during morning peak hour (between 6:00 A.M. to 9:00 A. M.). The respondent who is not employed left work during the morning peak every day, but biked four out of five days.
- Thirty-nine percent of resident trips were made by driving alone to work.
- Three respondents typically park at an unassigned space in the garage or parking lot, four park on the street, one respondent did not have a car.
- All respondents were aware that bike parking is offered
- Sixty-three percent of respondents were aware of the carshare vehicle onsite.



High Mar

High Mar, also developed by Boulder Housing Partners, serves low-income residents aged 55 and older. The site is located at 4990 Moorhead Ave and has 59 dwelling units, all 1- and 2-bedroom apartments. The final TDM plan was submitted in 2010 and construction was completed and the building opened in June 2014.

As part of the permitting process Boulder Housing Partners committed to:

- Providing 20 outside bicycle parking spaces, 14 more than required by code.
- Distribute GO Boulder welcome kits to new residents.
- Distribute surveys as required by the City of Boulder.
- Provide free eco-passes for a period of 3 years to residents, make an effort to maintain participation in the program after 3 years when subsidy expires.

As of Spring 2016 the following is being provided at High Mar:

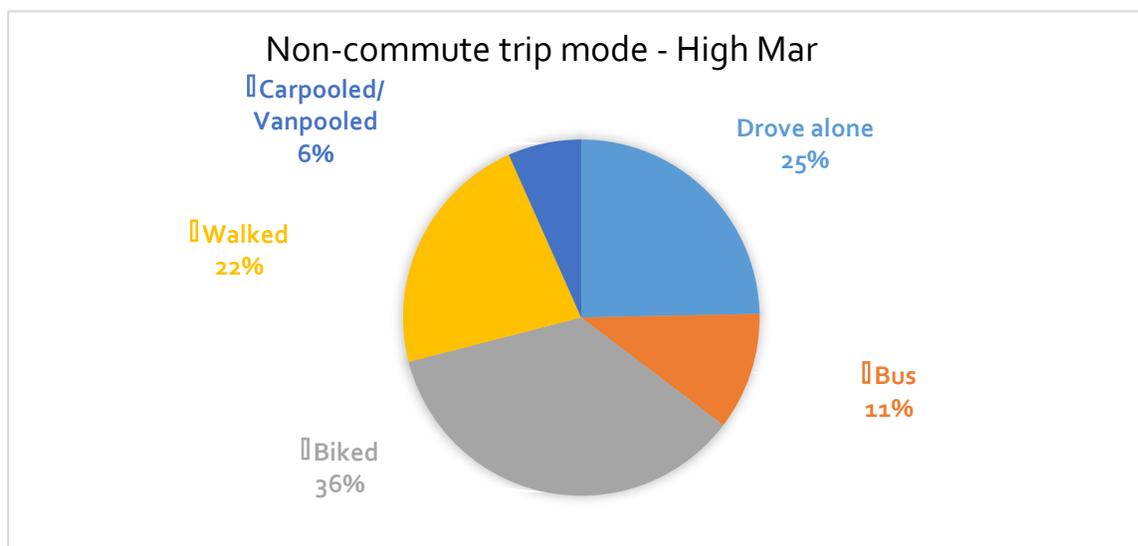
- Bicycle parking spaces
- Residents are being informed about online resources GO Boulder offers (no physical welcome kits)
- Eco-passes are being provided to residents
- Promotion of nearby eGo carshare vehicle

High Mar Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Provide 20 outside bike parking spaces	Outside bike racks
Distribute GO Boulder welcome kits to new residents	No
Distribute surveys as required by the City of Boulder	Yes
Provide free EcoPasses for 3 years to residents, make an effort to maintain participation after subsidy expires.	Residents receive free EcoPasses
	Nearby eGo carshare vehicle is being promoted
	New residents receive information about GO Boulder web resources.

High Mar participated in the survey and nine residents completed the survey. Survey results are as follows:

- None of the respondents are employed.
- During the survey week 56 percent of respondents left home at least once during the morning peak hour (between 6:00 A.M. to 9:00 A. M.).
- 62.5 percent of respondents typically park at an unassigned space in the garage or parking lot, 37.5 percent do not own a car.
- 89 percent were aware that bike parking is offered.
- 89 percent were aware that a free EcoPass is available to them.
- Biking was the most common mode for trips leaving High Mar during the morning peak hour.



Two Nine North

Two Nine North, originally called the Residences at 29th Street, is located at 1925 30th Street, just north of the 29th Street Mall in Boulder. The development has 238 multi-family dwelling units (1-BR and 2-BR apartments) and opened in 2010. Property management estimates the number of residents to be between 400 and 500.

As part of the permitting process the developer committed to the following TDM measures:

- Install a bus stop on walnut with bench and shade trees
- Self contained parking structure with 301 garage spaces, plus 6 surface spots, 1.26:1 ratio with capacity for vehicle to grid technology
- 12 outdoor bike parking spaces, 24 covered and secure parking spaces in garage (30 spaces required)
- Bike access to multi-use path north of property plus signage
- Pedestrian access to mall and transit stop
- Charge for parking (estimated \$100 - \$125 per month)
- Transportation coordinator who receives training and attends ETC meetings
 - Distribution of materials, maps, schedules
 - Markets special events
 - Promote regional ridesharing
- \$5 monthly rent discount if they own a bike
- Transit subsidy for employees (50%)
- Participate in periodic surveys, property management will market & distribute & perhaps provide small incentive to increase participation rate

Two Nine North implemented the following:

- Install bus stop on Walnut with bench & shade trees
- Self contained parking structure with 301 garage spaces, plus 6 surface spots
- 12 outdoor bike parking spaces, 24 covered and secure parking spaces in garage and residents are allowed to store bikes inside their unit.
- Bike access to multi-use path north of property
- Pedestrian access to mall and transit stop
- Charge for parking (\$100 for compact space, \$125 for regular space)

Two Nine North Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Install bus stop on Walnut with bench & shade trees	Yes
Distribute GO Boulder welcome kits to new residents	No
Distribute surveys as required by the City of Boulder	Not in 2016 survey
12 outdoor parking spaces, 24 covered & secure spaces	Yes, residents are also allowed to store their bikes inside their units.
Bike access to multi-use path north of property and signage	Yes
Pedestrian access to mall and transit stop	Yes

Charge \$100 - \$125 for parking	Yes, \$100 a month for compact space, \$125 for regular
Transportation Coordinator	Not known
\$5 monthly rent discount for owning a bike	No
Transit subsidy for employees	Not known
Self-contained parking garage with 301 spaces and 6 surface spots	Parking garage with 338 spaces, visitor parking on-street (Walnut Street)

Two Nine North did not participate in the survey.

Lumine Apartments

Lumine Apartments located at 2785 28th St. in Boulder, offers 69 affordable rental units across four three-story buildings. The units are one – and two-bedroom apartments (about half/half) and come with storage and one off-street parking space per unit. Lumine has approximately 100 residents.

As part of the permitting process the developer committed to the following TDM measures:

- Provide welcome orientation packets to new residents with transportation options information
- Provide 12 covered bike racks and allow residents to store bikes in their units
- Provide a free EcoPass to resident for a period of three years

As of spring 2016 Lumine provides the following:

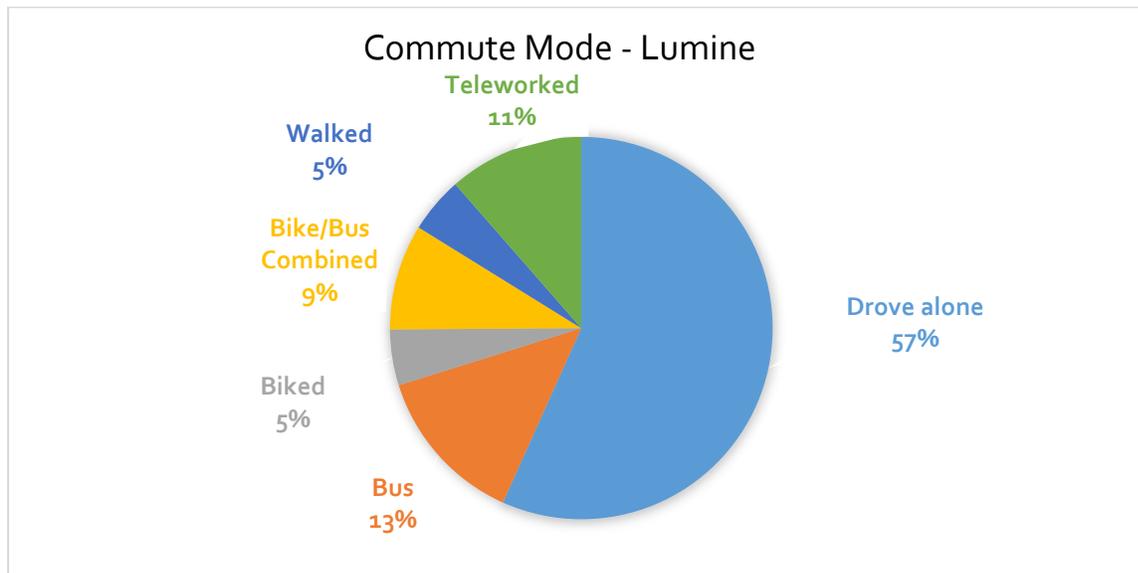
- Lumine currently provides free EcoPasses for all residents.
- Bike parking for 10-12 bikes is available.

Lumine Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Provide 12 covered bike parking spaces.	Yes, bikes can be stored in unit as well.
Distribute GO Boulder welcome kits to new residents	No
Distribute surveys as required by the City of Boulder	Yes
Provide free EcoPasses for 3 years to residents	Yes, residents receive free EcoPasses

Lumine participated in the survey and ten residents completed it. Survey results are as follows:

- All survey respondents reported being employed.
- 60 percent of respondents leave home to commute to work during the morning peak hour (between 6:00 A.M. to 9:00 A. M.).
- 70 percent of respondents typically parks at an assigned space in the garage or parking lot, 20 percent on the street, and 10.
- 1 person out of 10 respondents does not own a car.
- 89 percent were aware that bike parking is offered.
- 78 percent were aware that a free EcoPass is available to them.
- 57 percent of resident commute trips were made by driving alone, 13 percent by bus.



Boulder View Apartments (6655 Lookout Road)

Boulder View Apartments are located at 6655 Lookout Road in Gunbarrel on a site that was formerly used for commercial land uses. Opened in August of 2014, the complex has 68 units, of which 50 are one-bedroom units, 15 two-bedroom units and 3 are studios. Eighty-nine parking spaces are provided, as required by code, of which 26 are in a garage. There is no limited public parking available, primarily on the access road.

The developer made the following commitments in the TDM plan:

- Distribute transit and bike information kits to all residents
- 40 outdoor bike racks, 66 units with secure bike storage areas
- Parking partially unbundled (garage parking is charged extra)
- Encourage participation in alternative transportation events, such as Bike to Work Week and others
- Assist with TDM plan evaluation
- Sidewalk widening, internal pedestrian connections

The following had been implemented as of spring 2016:

- 40 outdoor bike racks and 66 units with secure bike storage areas
- Parking partially unbundled, garage parking costs \$100 extra per month. There are 26 garage spaces available. All other parking is first come first served.
- Sidewalk widening and internal pedestrian connections

Boulder View Apartments Summary

Measures committed to in TDM Plan	Measures implemented
Distribute transit and bike information kits to all residents	No
40 outdoor bike racks, 66 units with gear closets secure bike storage areas, bikes allowed in unit	Yes
Parking partially unbundled (garage parking is charged extra)	Yes, there are 26 garage spaces that are rented for \$100 a month each
Encourage participation in alternative transportation events, such as Bike to Work Week and others	No
Assist with TDM plan evaluation	Not in 2016 survey
Sidewalk widening, internal pedestrian connections	Yes

Boulder View did not participate in the survey.

The Lofts at Peloton

The Lofts at Peloton is a mixed-use development with 354-units and 17,000 sf of commercial space located at 3601 Arapahoe Avenue. Approximately half of the units are for sale, the remainder for rent. The TDM plan was submitted in 2006 and the building was completed in 2008. Hammersmith Management manages the HOA. Lincoln Properties is the property manager for the rental units.

The following commitments were made as part of the development process:

- Underground parking
- Free EcoPass for 3 years
- Purchasing of 6 – 8 vehicles for a bike share that is available to residents
- Provide a carshare vehicle onsite
- Controlled-access bike lockers rooms in each residential building
- Showers and locker room access for commercial tenants
- Participate in surveys

As of Spring 2016, the following was available at the Lofts at Peloton:

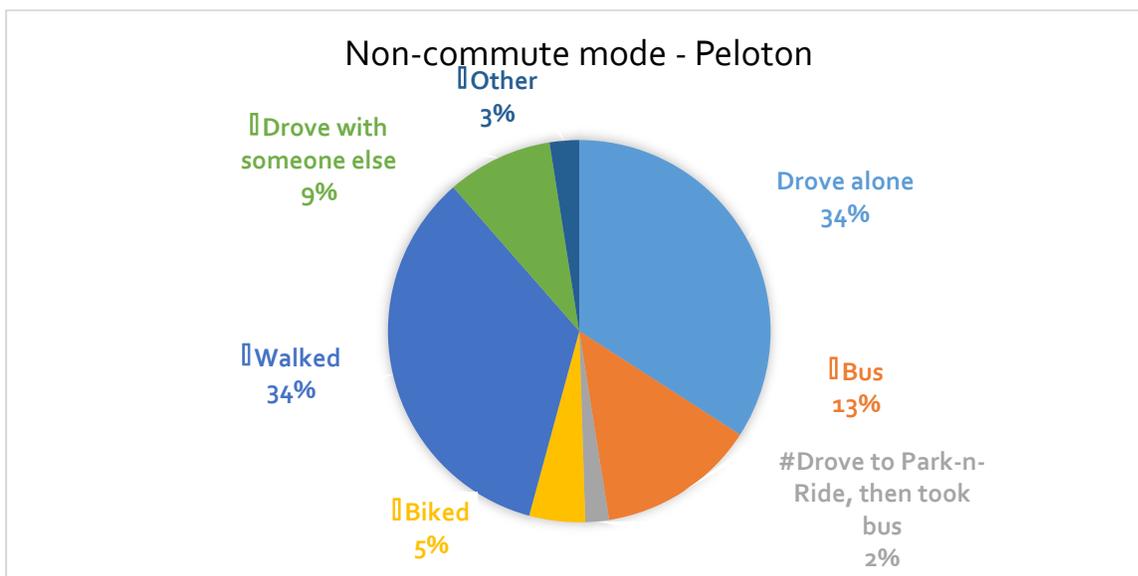
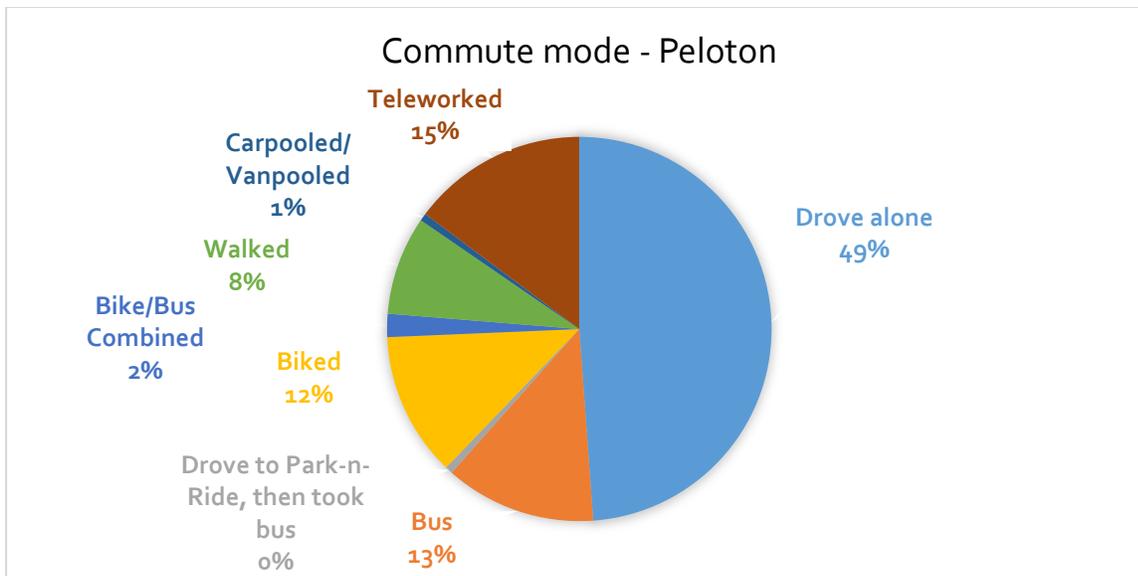
- Underground parking
- EcoPass is currently provided with the cost included in HOA fees
- There is no on-site bike share, however, a B-Cycle membership discount is available
- There is no on-site car share
- Bike parking, racks are full
 - Residents are allowed to store bikes inside their units, but not on the balconies
- Outdoor and covered/long-term bike racks

Lofts at Peloton Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Underground parking	Yes
Free EcoPass for 3 years	Yes, currently provided with cost included in HOA fees
Purchasing of 6 – 8 vehicles for a bike share that is available to residents	No
Provide a carshare vehicle onsite	No
Controlled-access bike lockers rooms in each residential building	Yes
Showers and locker room access for commercial tenants	Not known
Participate in surveys	Yes
	Nearby B-Cycle station and discounted B-Cycle membership

The Lofts at Peloton participated in the survey and fifty residents completed it. Survey results are as follows:

- 65 percent of respondents reported being employed and/or a student.
- Just over half – 52 percent – of employed respondents left home to go to work between 6:00 A.M. and 9:00 A.M.
- During the survey week 50 percent of respondents who are not employed left home at least once during the morning peak hour (between 6:00 A.M. to 9:00 A. M.).
- 96 percent of respondents typically park at an assigned space in the garage or parking lot, 4 percent park on the street.
- 96 percent were aware that bike parking is offered.
- 90 percent were aware that a B-Cycle station is nearby.
- 65 percent were aware that a free EcoPass is available to them, 16 percent said it was not available, and 18 percent were not sure.
- 49 percent of employed resident commute trips were made by driving alone and 13 percent by bus. 15 percent of residents telecommuted.
- 34 percent of residents who are not employed walked when they left their home during the morning peak hour. Another 34 percent drove alone.



9 Seventy

9 Seventy, which is located at 970 28th Street in Boulder, opened in 2015. Its location near CU Boulder attracts a sizable student population. Originally named Landmark Lofts Phase II, this apartment complex has 132 units and 172 parking spaces in an underground garage.

The following commitments were made in the TDM plan:

- Commuter information kiosk in visible location that displays transit maps, schedules, etc.
- Distribute bus riders and bicycle riders guide to residents
- 113 bike parking spaces (mix of secure in garage and outdoor) plus storage lockers in garage
- Free EcoPass to residents for three years (all residents who are not students and do not already receive CU EcoPasses)

- Underground parking
- Parking reduction
- New bicycle/pedestrian infrastructure
- Nearby retail
- Transit access
- Host bike tour of the area for residents once a year
- Participation in annual travel survey

As of 2016 the following have been implemented:

- Distribute bus rides and bicycle riders guide to residents
- Total of 172 bike parking spaces, 84 of which are in the garage
- Suggest bus transportation to new residents (bus stop outside building)
- Bike repair station

9 Seventy Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Commuter information kiosk in visible location that displays transit maps, schedules, etc.	No
Distribute bus riders and bicycle riders guide to residents.	Yes
113 bike parking spaces (mix of secure in garage and outdoor) plus storage lockers in garage	172 total spaces, 84 in garage
Free EcoPass to residents for three years (all residents who are not students and don't already receive CU EcoPasses).	No
Underground parking	Yes
Parking reduction	Yes
New bicycle/pedestrian infrastructure	Yes
Host bike tour of the area for residents once a year	No
Participation in annual travel survey	Not in 2016 survey
Nearby retail	Yes
Transit access	Yes
	Bike repair station

9 Seventy did not participate in the survey.

Commercial Properties

Walgreens

Walgreens is a 15,000 square foot development located at 2870 28th street, the southeast corner of Valmont Road and 28th Street. The Transportation Demand Management Plan was submitted in 2008 and the store opened in 2010.

As part of the permitting process the developer committed to the following TDM measures:

- Providing 20 outside bicycle parking spaces, 14 more than required by code
- Stocked commuter kiosk with information for RTD bus maps, GO Boulder maps, bicycle riders guide, transit riders guide, and associated local travel information for employees and customers
- Distribute surveys as required by the City of Boulder
- Provide free eco-passes for a period of 3 years to employees

As of Spring 2016 the following is being provided at Walgreens:

- Provides 4 bicycle racks, for a total of 8 bicycle spots
- EcoPasses are no longer being provided for employees, as the three-year period has passed

Walgreens Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
20 outside bike parking spaces	8 bike parking spaces
Commuter kiosk	No
Distribute surveys	Not in 2016 survey
Eco-passes for employees (3 years)	Not currently provided

Walgreens did not participate in the survey. Surveys were provided, but not distributed to employees.

Hampton Inn

Hampton Inn is a 100-room hotel development located at 6333 Lookout Road, at the northeast corner of Lookout Road and North 63rd Street. The site was developed by Boulder Hospitality LLC. The Transportation Demand Management Plan was submitted in 2008 and the hotel opened in the summer of 2013.

As part of the permitting process the developer committed to the following TDM measures:

- Providing outside bicycle parking spaces outside each building
- Stocked commuter kiosk with information for RTD bus maps, GO Boulder maps, bicycle riders guide, transit riders guide, and associated local travel information for employees and customers
- Distribute annual surveys as required by the City of Boulder
- Provide an appointed onsite Employee Transportation Coordinator to promote transportation options
- Provide free eco-passes for a period of 3 years to employees

As of Spring 2016 the following is provided at Hampton Inn:

- Provides 8 bicycle racks (16 spots) outside of the building, are not utilized

- Provides onsite bike share, mostly for guests but employees can also use
- Provides showers for employees to shower if they bicycle to work
- Provides verbal information about transit at New Hire Orientations (does not currently provide any written information and did not know Welcome Packets are available from GO Boulder)
- Offers free EcoPasses to employees, but no employees use it

Hampton Inn Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Providing outside bicycle parking spaces outside each building.	Yes, 16 spots, not utilized
Stocked commuter kiosk with information for RTD bus maps, GO Boulder maps, bicycle riders guide, transit riders guide, and associated local travel information for employees and customers.	Provides verbal information about commute options to new hires
Distribute annual surveys as required by the City of Boulder.	Yes
Provide an appointed onsite Employee Transportation Coordinator to promote transportation options.	No
Provide free eco-passes for a period of 3 years to employees.	Yes, but no employees use it
	Onsite bikeshare primarily for guests, but available to employees
	Showers for employees who walk or bike to work

Hampton Inn's survey yielded two responses.

MorningStar

MorningStar of Boulder is a senior living facility with 46 assisted living residential units and 46 memory care units. The facility is located at 575 Tantra Drive. The site was developed by MorningStar Senior Living LLC. The Transportation Demand Management Plan was submitted in 2013 and the facility opened in September 2015.

As part of the permitting process the developer committed to the following TDM measures:

- Providing a newly relocated bus stop that is code compliant
- Providing five outside bicycle parking racks
- Link to the GO Boulder website from the MorningStar of Boulder website
- Distribute commute surveys as required by the City of Boulder
- Promote the existing EcoPass program for all staff members

The following have been implemented by MorningStar:

- Provided newly relocated bus stop
- One bike rack with approximately 5 spaces

- Link to the GO Boulder website:
<http://www.morningstarseniorliving.com/communities/morningstar-of-boulder/location-map/>

Morningstar Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
Providing a newly relocated bus stop that is code compliant.	Yes
Providing five outside bicycle parking racks.	Yes
Link to the GO Boulder website from the MorningStar of Boulder website.	Yes
Distribute commute surveys as required by the City of Boulder.	Not in 2016 survey
Promote the existing EcoPass program for all staff members.	Not known

Morningstar did not agree to an interview, provide written answer, or participate in the survey.

Crossroad Commons/Whole Foods

Redevelopment project, traffic study was completed in 2006. Barnes and Noble opened in its current location in 2009, Whole Foods completed its expansion in 2010/11. There are 14 tenants in the shopping center, however, the primary tenants are Whole Foods and Barnes & Noble, and only Whole Foods was required to provide EcoPasses per the TDM plan.

The following commitments were made in the 2006 TDM plan:

- EcoPasses for Whole Foods employees for 3 years
- Concrete pad for new bus stop – Pearl Street west bound in front of Barnes & Noble
- Concrete pad for new bus stop – 30th street south bound close to Pearl Street
- Bike racks for customers

The following has been implemented:

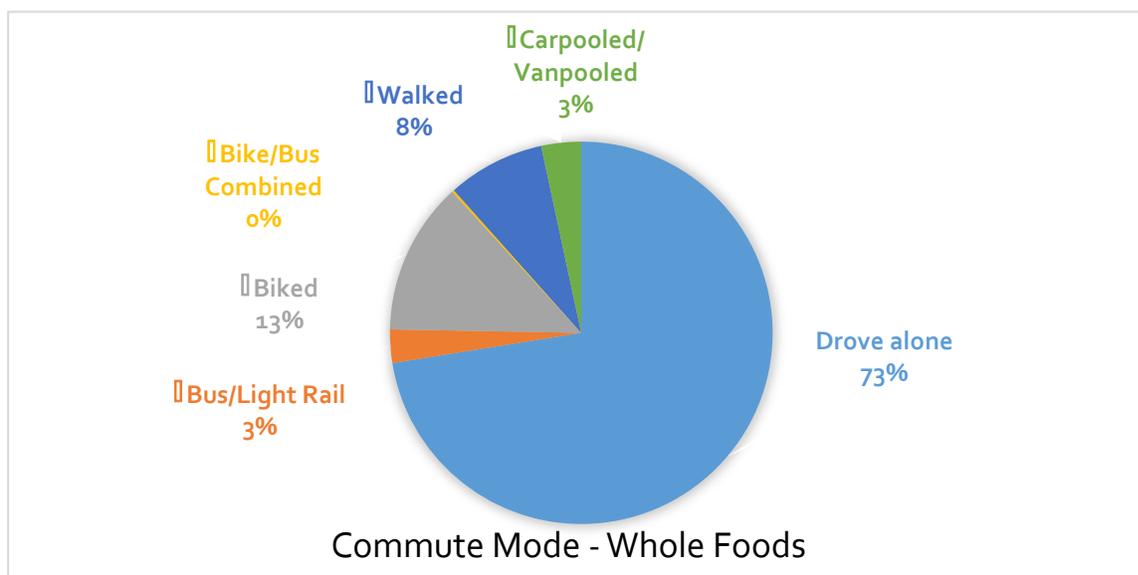
- Special area for employee parking in garage, part of the garage. In addition employees are encouraged park against Pearl Street and Whole Foods has an easement agreement for parking on city ball field parking. Parking is on average 75% full.
- Concrete pad for new bus stop – Pearl Street west bound in front of Barnes & Noble
- Concrete pad for new bus stop – 30th street south bound close to Pearl Street
- Bike Parking, some covered, but not secure bike parking in garage
- Whole Foods no longer offers EcoPasses at this location

Whole Foods Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
EcoPasses for Whole Foods employees for 3 years	Not currently
Concrete pad for new bus stop – Pearl Street west bound in front of B&N	Yes
Concrete pad for new bus stop – 30 th street south bound close to Pearl	Yes
Bike racks for customers	Yes
	Assisted with 2016 survey
	Hosts bike breakfast

Whole Foods, the largest tenant at Crossroads Commons participated in the survey and 99 employees completed it. Survey results are as follows:

- 19.8 percent of employees completed a survey.
- Survey results are statistically significant with at the 95% confidence level and 10% margin of error.
- 28.3 percent of respondents do not work on weekends while 20.8 percent have their day off on weekdays.
- 49.5 percent of employees arrive during the morning peak hour (between 6:00 A.M. and 9:00 A. M.). The most common arrival time is before 6:00 A.M. (27 percent of respondents).
- Their average distance they travel from home is 9.4 miles, while the median is 7 miles.
- 57 percent said parking was very easy or easy to find, while 15 percent said it was difficult or very difficult.
- 94 percent of employees were aware that bike parking is available.
- 73 percent of employee commute trips were made by driving alone to work.



Boulder Community Hospital

Boulder Community Hospital built its new Foothills Campus at 4747 Arapahoe, BCH's main acute care hospital. It has 110 inpatient beds and is known for its outstanding cardiology, orthopedic and neurological services. The hospital has a 25-bed emergency department and an 18-bed intensive care unit. Parking is provided free to patients and employees in a parking garage and surface lots. It gets busy on Tuesdays and Thursdays when many procedures are scheduled. As a hospital, this location is not limited to 9-5 hours, and while BCH has implemented TDM programs with its employees, there are approximately 400 additional independent doctors and employees on-site that BCH cannot directly reach.

The TDM plan submitted in 2001 as part of the traffic impact study included the following commitments:

- EcoPasses for employees
- Bike storage
- Shower facilities
- Onsite amenities (cafeteria)
- Messenger service between two campuses to reduce number of delivery trips

The following has been implemented as of Spring 2016:

- EcoPasses for full-time, part-time and per diem employees
- 20 bike racks, fully utilized
- Onsite amenities (cafeteria, gift shop, pharmacy, coffee kiosk)
- Shower facilities are not yet available, but will be once construction is complete
- Integrate commuting into wellness programs

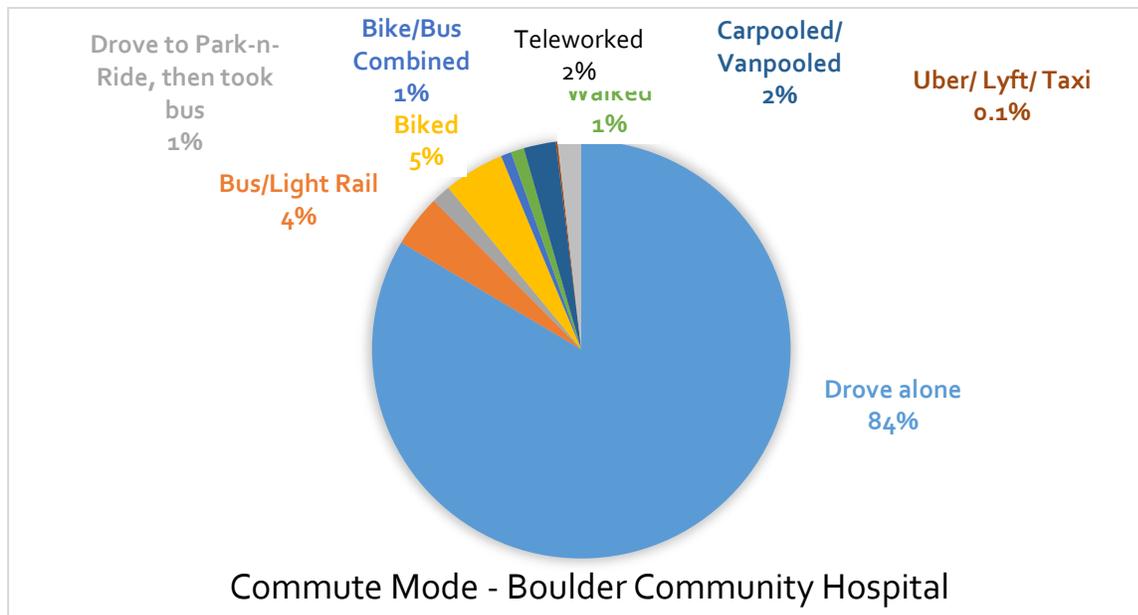
Boulder Community Hospital Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
EcoPasses for employees	Yes
Bike storage	Yes
Shower facilities	No
Onsite amenities (cafeteria)	Yes
Messenger service between two campuses to reduce number of delivery trips	Not known
	Assisted with 2016 survey

Boulder Community Hospital's Foothills Campus participated in the survey. Of 1100 employees 338 completed the survey. Survey results are as follows:

- 31 percent of employees completed a survey.
- Survey results are statistically significant with at the 95% confidence level and 5% margin of error.
- 76.1 percent of respondents do not work on weekends while 21.5 percent have their day off on weekdays.
- 80 percent of employees arrive during the morning peak hour (between 6:00 A.M. and 9:00 A. M.). The most common arrival time is between 6:00 A.M. and 6:59 P.M. (37 percent of respondents).
- Their average distance they travel from home is 13.8 miles, while the median is 12 miles.

- 49 percent of respondents said parking was very easy or easy to find at work while 23 percent said it was difficult or very difficult. 26 percent chose neutral.
- 92 percent of respondents were aware that bike parking and a free EcoPass are available.
- 84 percent of employee commute trips were made by driving alone to work.



Trader Joe's

Trader Joe's opened its 14,000 square foot Boulder store at 1906 28th street in 2014. There are 75 parking spaces onsite, 4 of which are accessible stalls.

The TDM plan submitted in 2012 includes the following:

- 14 bike parking spaces (4 within 20' of the entrance, 6 within 50' of the entrance, 4 secure spaces for employees)
- Pedestrian access to 28th street multi-use path
- Bike access to existing and planned bike facilities
- Pre-tax benefits for transit and vanpool
- Promote regional rideshare database
- Appoint an Employee transportation Coordinator and provide that information to Go Boulder
- Transportation information center
- Program evaluation participation
- Encourage mall property manager to find a space for at least one carshare vehicle or space for a bikeshare station
- Host a bike to work breakfast station and encourage employees to participate in bike to workday (June & January)

Actually implemented as of spring 2016:

- 14 bike parking spaces within 20' of the entrance, employees are allowed to store their bike in store's backroom

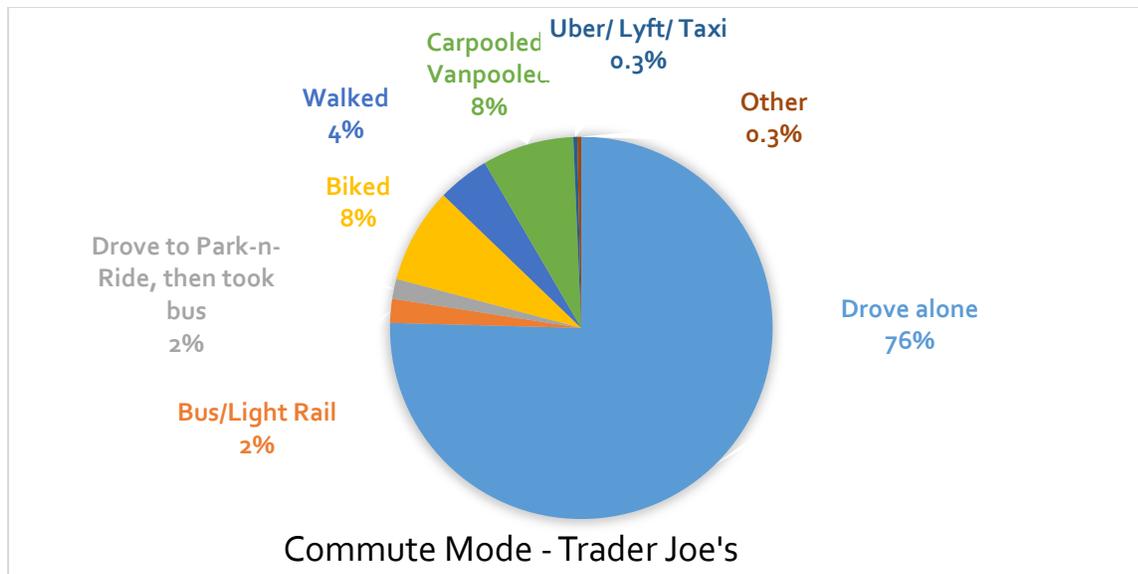
- Pedestrian access to 28th street multi-use path
- Bike access to existing and planned bike facilities
- Pre-tax benefits for transit and vanpool
- Trader Joe's posts information about pre-tax benefits
- There is a bikeshare station in the mall

Trader Joe's Summary

<i>Measures committed to in TDM Plan</i>	<i>Measures implemented</i>
14 bike parking spaces (4 within 20' of the entrance, 6 within 50' of the entrance, 4 secure spaces for employees)	14 spaces within 20' of entrance, no secure spaces, but employees are allowed to store their bike in the store's backroom.
Pedestrian access to 28 th street multi-use path	Yes
Bike access to existing and planned bike facilities	Yes
Pre-tax benefits for transit and vanpool	Yes, Wage Works Commuter Program
Promote regional rideshare database	No
Appoint an Employee transportation Coordinator and provide that information to Go Boulder	No
Transportation information center	Bulletin board in breakroom with pre-tax benefit information
Program Evaluation participation	Yes
Encourage mall property manager to find a space for at least one carshare vehicle or space for a bikeshare station.	Bikeshare yes, carshare no
Host a bike to work breakfast station and encourage employees to participate in bike to workday (June & January)	No

Trader Joe's participated in the survey and 57 employees completed it. Survey results are as follows:

- 88 percent of employees completed a survey.
- Survey results are statistically significant with at the 95% confidence level and 5% margin of error.
- 18.4 percent of respondents do not work on weekends while 28.4 percent have their day off on weekdays.
- 17.5 percent of employees arrive during the morning peak hour (between 6:00 A.M. and 9:00 A. M.). The most common arrival time is after 9:00 A.M. (54 percent of respondents).
- Their average distance they travel from home is 12.4 miles, while the median is 10 miles.
- 96 percent of employees are aware of bike parking, but only 11 percent know that pre-tax commute benefits are available to them.
- 76 percent of employee commute trips were made by driving alone to work.
- 85 percent of respondents said parking was easy to find and 15 percent said it was neither easy nor difficult.



Avery

Avery Brewing moved to its new 67,000 square foot location at 4910 Nautilus Ct in Gunbarrel in 2015. It includes brewery space, restaurant, office, and small retail space. The TDM plan for this property was submitted in 2012 and the facility opened in February of 2015. As of 2016, Avery has 173 employees.

The TDM plan included the following commitments:

- EcoPasses for employees
- Bike parking
- Shower and locker facilities for cyclists and pedestrians
- TDM orientation packets for employees
- Coordination of annual surveys.
- Kiosk or TDM material distribution
- Staggered or flexible work hours
- Parking management strategies, such as designated carpool/vanpool & parking reduction

Implemented as of spring 2016:

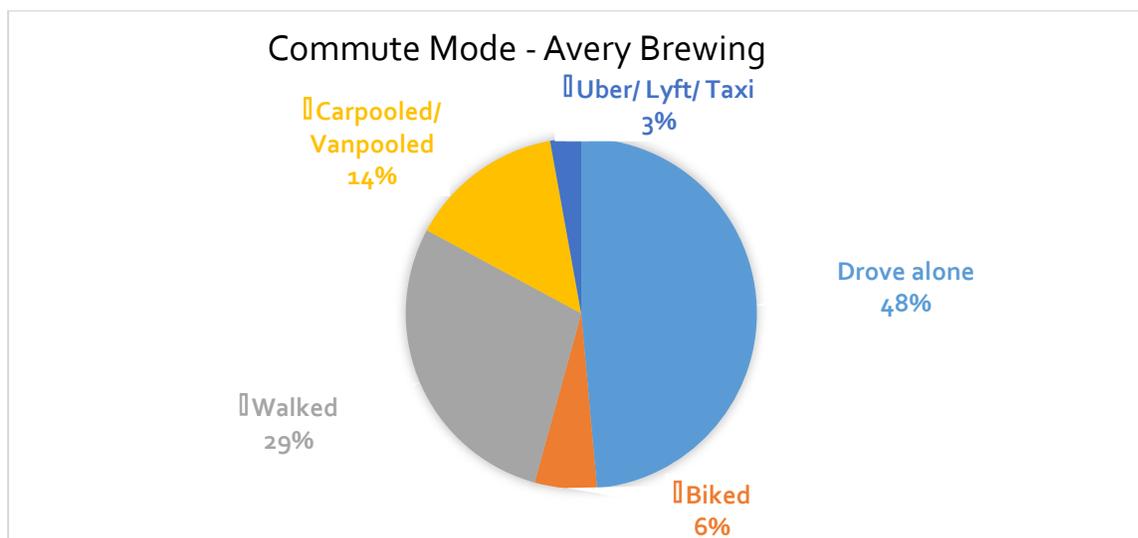
- EcoPasses for employees
- Gated employee bike parking – 20 spots
- Shower and locker facilities for cyclists and pedestrians
- When hosting employee events with alcohol, provide list of carpool partners based on zip code as well as transit route information (but do not provide other than that)

Avery Brewing Summary

Measures committed to in TDM Plan	Measures implemented
EcoPasses for employees	Yes
Bike parking	20 bike parking spaces outside and 20 spaces in gated area for employees
Shower and locker facilities for cyclists and pedestrians	Yes
TDM orientation packets for employees	No
Coordination of annual surveys	Yes
Kiosk or TDM material distribution	No
Staggered or flexible work hours	No
Parking management strategies, such as designated carpool/vanpool & parking reduction	No
	List of carpool partners for employee events with alcohol

Avery Brewing participated in the survey and 8 employees completed it. Survey results are as follows:

- 71.4 percent of respondents do not work on weekends while 11.4 percent have their day off on weekdays.
- 71 percent of employees arrive during the morning peak hour (between 6:00 A.M. and 9:00 A. M.).
- Their average distance they travel from home is 16 miles, while the median is 13 miles.
- All respondents said parking was very easy or easy to find.
- 86 percent of respondents are aware that bike parking and showers are available and that a free EcoPass is offered.
- Just under half of respondents' commute trips were made by driving alone to work.



Appendix A: Sample of Survey Instrument



Boulder Employee Survey: WHOLE FOODS



Thank you for taking a few minutes to complete this survey. UrbanTrans North America is conducting this survey on behalf of the city of Boulder to learn about travel patterns at your work location.
As a reward, you will be entered into a drawing for one of four **\$25 gift cards to Amazon or Target** (one entry per person). All of your answers will be kept strictly confidential.

You can take this survey online or on your phone using this link:

GoBoulderSurvey.com/WholeFoods

01. How did you get to work at this location during the last week? If you used a combination of modes that is not mentioned below, report the travel mode that is used for the longest distance of your trip.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
No work/school that day							
Drove alone							
Bus/Light Rail							
Drove to RTD park-n-ride, then bus							
Bike							
Combined bike/bus							
Walked							
Carpooled/Vanpooled							
Uber/Lyft/Taxi							
Teleworked							
Other							

02. About how many miles do you travel from home to work (one way)? _____

03. What time do you typically arrive at work (if your schedule varies, select the most common arrival time)?

- Before 6:00 am
 7:00 am - 7:59 am
 After 9:00 am
 6:00 am - 6:59 am
 8:00 am - 8:59 am
 I typically telework

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Boulder Employee Survey: WHOLE FOODS

Continued...

04. Does your employer or building provide any of the following?

	Provided	Not provided	I don't know
<i>Outdoor Bike racks</i>			
<i>Secure bike parking (bike lockers, bike cage/room)</i>			
<i>Bikeshare (bikes onsite that you can check out)</i>			
<i>Showers</i>			
<i>Carpool/vanpool parking spots</i>			
<i>Information about ways to find carpool partners</i>			
<i>Discounted EcoPass</i>			
<i>Free EcoPass</i>			
<i>Other transit pass subsidy (monthly pass/10-ride ticket)</i>			
<i>Kiosk/bulletin board with commute information (transit schedules, etc.)</i>			
<i>A packet with transportation information (transit, carpooling, biking/walking, etc.)</i>			
<i>Carshare vehicle onsite (eGo, ZipCar or Car2Go)</i>			
<i>Free Parking on site</i>			
<i>Pre-tax transit/vanpool benefits*</i>			

*Allows employees to buy transit passes or pay for vanpool fares with pre-tax dollars.

05. How difficult is it to find a parking spot on the days you drive to work?

Very easy
 Easy

Neutral
 Difficult

Very difficult
 I never drive to work

Please provide your contact information if you would like to be enrolled in our prize drawing.
The information is strictly confidential and will only be used to contact you if you are a prize winner.

Name: _____
Email: _____
Phone: _____

Please return this survey to: _____

or mail to: _____

 **Boulder Resident Survey:
HIGH MAR**



Thank you for taking a few minutes to complete this survey. UrbanTrans North America is conducting this survey on behalf of the city of Boulder to learn about travel patterns at your residence.
As a reward, you will be entered into a drawing for one of four \$25 gift cards to Amazon or Target (one entry per person). All of your answers will be kept strictly confidential.

You can take this survey online or on your phone using this link:

GoBoulderSurvey.com/highmar

01. Are you currently employed (full-time or part-time) and/or a student (full-time or part-time)?

- Yes, employed
- Yes, both employed & student
- Yes, student
- No » skip to question 4

02. During the last five weekdays, how did you get to work or school? If you used a combination of modes that is not mentioned below, report the travel mode that is used for the longest distance of your trip.

	Monday	Tuesday	Wednesday	Thursday	Friday
No work/school that day					
Drove alone					
Bus					
Bike					
Carpool/Vanpool					
Teleworked					
Combined bike/bus					
Drove to RTD park-n-ride, then bus					
Uber/Lyft/Taxi					
Walk					
Other					

03. What time do you normally leave for work? If your schedule varies, select the most common departure time.

- Before 6:00 am
- 7:00 am - 7:59 am
- After 9:00 am
- 6:00 am - 6:59 am
- 8:00 am - 8:59 am
- I typically telework

» Skip to Question 6

...continued on other side

ATTACHMENT B: TRANSPORTATION DEMAND MANAGEMENT (TDM) PLAN POLICY OPTIONS FOR PRIVATE NEW DEVELOPMENT

MEASURING SUCCESS:

Goals and Measurable Objectives TDM Plans for New Developments

The overarching reasons for incorporating TDM into the Site Review process and regulating implementation and evaluation is to meet the goals and objectives of the Boulder Valley Comprehensive Plan, the City of Boulder’s Sustainability Framework and the Transportation Master Plan and the Access Management and Parking Strategy. However, when designing a new set of policies and a TDM toolkit, it is important to understand the *specific* reasons in terms of new developments.

Currently, the City focuses on vehicle trip reduction as the key measurable objectives of TDM plans. The Design and Construction Standards state that when a commercial development is expected to exceed 100 vehicle trips at peak hour or 20 vehicle trips at peak hour for residential developments, a traffic study is required. One element of the traffic study is the design of a TDM Plan, which provides an outline of site design amenities and vehicle trip reduction strategies to mitigate traffic impacts. To be approved, the TDM plan must be judged to provide a “significant” reduction in vehicle trips. However, what is meant by “significant” trip reduction is not defined by ordinance, nor is there any regulatory mechanism to enforce the implementation of the plan or penalties for failing to meet the plan objectives.

In Boulder Junction, the Trip Generation Allowance ordinance is more specific and focuses on allowing just 45 percent of all trips in single-occupant vehicles within the TDM Access District as a whole. It is up to the District to implement, monitor, and intensify the TDM strategies designed to meet the ordinance. As properties redevelop in Boulder Junction, payment-in-lieu-of-taxes (PILOT) fees and property taxes are collected to fund the Boulder Junction TDM program. The funds are being used to provide RTD Eco Passes to all residents and employees within the District, free carshare memberships and subsidized bikeshare memberships. As more properties redevelop and join the District, staff will begin to monitor SOV trips and make adjustments as necessary to meet the target.

In designing a TDM program for new developments with a regulatory approach, policy makers will need to determine what will be the measurable objective that will determine whether a TDM plan is successful or not. A review of peer cities and municipalities that have ordinances in place reveal a limited number of key measures. These include:

- Vehicle trips,
- Single-occupant vehicle trips, more specifically, and
- Average vehicle ridership (AVR)

Typically, the target level of vehicle trip reduction is based on a percent reduction from peak hour ITE trip generation rates based on size and land-use. Our current Site Review traffic studies estimate the number of vehicle trips that a specific-sized land use will generate and the City could determine what percent reduction will align with our wider transportation and sustainability goals. In Fairfax County, Virginia for example, vehicle trip reduction targets vary

based on size and location, specifically proximity to transit oriented development (TOD) locations.

In places where reducing SOV trips is the basis of a TDM ordinance for new developments, the target is generally set by wider city or county goals. For example, our TMP objective is to have just 25 percent of all trips by residents in SOVs by 2025 and currently in Boulder Junction TDM Access District the target is to have just 45 percent of all trips by residents and employees immediately. In Cambridge, Massachusetts TDM plans are required to meet a 10 percent reduction in the SOV mode share from overall drive alone mode share of the census tract in which the development is located.

Average vehicle ridership (AVR) is typically found in California where air quality regulations require TDM plans for new and existing developments. AVR is calculated by dividing the number of persons traveling by all persons trips (including transit riders) by the number of private vehicle trips, while taking into account the average vehicle ridership of multiple-occupant vehicles. In Pasadena, California, the peak hour AVR targets range from 1.5 to 1.75 for large commercial developments depending on location and proximity to TOD locations. In California, TDM plans and targets must meet the regional Air Quality Management District's regulations and monitoring requirements as well.

When deciding which measurable objective to use it is important to consider the time and cost to collect the necessary data from property managers, residents and employees. While vehicle trip generation can be measured with driveway counts, SOV mode share and AVR require the administration of surveys to collect the necessary data.

***Considerations:** Staff is considering using SOV mode share as the primary objective since it is also used as a TMP objective and the key metric of the existing Boulder Junction Trip Generation Allowance ordinance. Tracking of this measurable objective would be accomplished through survey of employees/residents of the development. Staff also is considering the collection of vehicle trip generation data through traffic counts to validate survey findings.*

Setting Target Levels

Once a measurable objective is identified, setting the target levels can be a difficult process considering of the level of complexity that can be generated if the calculation of target levels varies based on the characteristics of development. Based on the review of peer cities and municipalities with ordinances in places there is a potentially a large number of characteristics that could influence the target level of the measureable objective. The report on peer cities and existing ordinances provides examples of specific target levels for locations with ordinances in place.

For both commercial and residential developments, the most frequently used characteristics include land-use, size and location. Location is often related to proximity to a TOD location or transit level of service in general. In our case, the City may also want to consider proximity to our Community Transit Network (CTN) routes and future bus rapid transit (BRT) service specifically, as well as location in a current or future parking management or TDM district. Also, depending what changes, if any, are made to the City's parking code, it may be necessary

to include parking supply as an additional factor given the frequency of requests for parking reductions.

For the City, it will be important to align targets with the BVCP, TMP and Sustainability Framework objectives related to SOV mode share, VMT, transportation-related GHG emissions. An option to consider is have targets change over time to match the trajectory of the necessary reductions to meet the goal of an 80 percent reduction in GHG by 2050.

Considerations: Staff is considering using land-use, size, proximity to CTN or BRT service, location in an existing Parking or TDM Access District, and parking supply in relation to reductions from minimum parking requirements as the key factors in determining specific target levels for the measurable objective(s). For multi-family residential, location in an existing Neighborhood Eco Pass program could also impact specific target levels.

TRIGGERS AND THRESHOLDS

Triggers for TDM Plan Requirement

In all places with TDM ordinances for new development, there are some projects that are exempt from the requirements. Typically, this is based on size or estimated ITE trip generation rates. As previously stated, the Design and Construction Standards state that when a commercial development is expected to exceed 100 vehicle trips at peak hour or 20 vehicle trips at peak hour for residential developments an approved TDM Plan needs to be submitted. The City may want to revisit these figures and raise or lower the thresholds based on staff feedback on the frequency of exempted Site Review developments.

While trip generation or size measured in square feet, or number of bedrooms for residential, are most typically used, the City may want to consider some other triggers which either exempt or automatically require a regulated TDM plan. As mentioned, a request for parking reduction could automatically trigger the need for a plan. Other options to consider include location within a TOD or sub-plan area or in an existing district such as CAGID or UHGID. Under current code, any property that redevelops in Boulder Junction is already required to meet the Trip Generation Allowance through the District or independently.

Considerations: Staff is not considering changing the trip generation thresholds currently in place. Staff is also considering the inclusion of parking reduction requests as a trigger for requiring TDM Plans as well as location in an existing parking or TDM Access District, or in an existing or future TOD site.

TDM Plan Design

Once a TDM plan is required for a new development, the plan must be designed through a collaborative process with city staff and the applicants. One of the key aspects to consider in regard to plan design is whether or not there are required elements. For example, parking cash-out programs, in which an employee is financially compensated for not using a parking space, were frequently required in regional California Air Quality Management Districts. On the other side of the spectrum, plans could be flexible and customized to each development without any

required elements. TDM plan ordinances that do not require specific elements still meet the overall goals through monitoring and enforcement. When developments are not meeting the target levels are typically required to submit modified plans until the target is reached and in some areas are subject to financial penalties.

In Boulder, RTD Eco Passes for residents or employees could be a required element based on the characteristics of the development. In locations underserved by transit, the unbundling of parking could be a required element of multi-tenant commercial properties or attached multi-family residential projects. There is a long list of TDM plan elements that could be required in addition to Eco Pass and unbundled parking. Attachment D contains a list of residential and commercial TDM plan elements which could be required in certain cases.

***Considerations:** Staff's preference would be to have very few required TDM Plan elements required which would allow TDM Plans to be more flexible and customized for each particular site. If a development is located in an existing District such as CAGID or Boulder Junction for example, participation in certain programs like the Eco Pass would be automatic. However, staff does not recommend that Eco Pass participation be a required element, with the exception of a residential development being located within an existing Neighborhood Eco Pass program. Since Eco Pass participation has proven to be one of the most effective strategies for changing travel behavior it is highly likely that it will be a necessary element to be in compliance with a TDM Plan ordinance wherever transit level of service is adequate.*

The few elements that could be required include:

- *Facilitation of scheduled TDM Plan evaluations or submission of required reporting*
- *Appointment of ETC as a point of contact for commercial developments or residential properties*

Additional elements to consider include:

- *Unbundled parking for multi-tenant commercial or multi-family residential properties with possible size thresholds*
- *Showers and Changing Facilities for commercial developments with possible size thresholds*
- *Neighborhood Eco Pass program participation if development is located within existing program boundaries*
- *Transportation Management Organization (TMO) membership as a way to secure services to meet TDM Plan requirements.*

MONITORING AND ENFORCEMENT

Timing and Duration of TDM Plan Monitoring

Once regulated TDM plans have been implemented they need to be monitored to ensure that the target levels of the measurable objectives are being met. In designing a TDM ordinance for new developments, decisions need to be made about how often and for how long the effectiveness of the TDM plan is evaluated. The review of peer cities and current ordinances in place reveal that plans are typically evaluated annually for a certain number of years. After that period, often

three to five years, the requirement either ends or compliance with the ordinance continues but with less periodic monitoring.

A frequent question of Boards and Council specifically concerns the duration of required Eco Pass participation, which in practice has been three years in time. With an ordinance in place that requires permanent compliance to a specific target, the “required duration” of any specific TDM Plan element becomes moot.

Developments are sometimes required to submit annual reports that are based on data collected by themselves or consultants or in some areas by city or county staff. Who actually is responsible for submitting reports and collecting data often depends on staff resources and the number of TDM plans that are required to be monitored.

When a development is not meeting their targets annual evaluations can continue beyond the initial time period. If targets are being met, require annual evaluations can cease or evaluations requirements can change. For example, in Cambridge, when a development has been met its objective three years in a row, their file is set aside in a pool of projects that can be randomly selected for a special evaluation every five years.

Consideration: *Staff is considering an approach in which compliance to the TDM Plan ordinance is permanent and unending. Developments would have three years to be in compliance and to meet the measurable objective target. During those first three years, annual evaluations would be conducted or annual reporting would be required. If a development is non-compliant in any of the first three years than action is taken to modify the existing TDM Plan with assistance from GO Boulder and/or Boulder Transportation Connections (BTC), the city’s local transportation management organization (TMO).*

If after the initial three years the development is still non-compliant, then additional measures are taken and possible fines or fees are levied. Any fines, fees, or escrowed funds are then reinvested into the development to provide additional programs, services or incentives to motivate travel behavior change until the development is in compliance. Any development that is in compliance three years in a row would still be required to meet the target, but would no longer be required to be annually evaluated or submit annual reports. Instead the development would be placed in a pool subject to random or periodic review to check for compliance similar to the process used in Cambridge.

TDM Plan Enforcement

The difference in the City’s current approach to TDM Plans for new developments and a regulatory approach is the ability to actually enforce that target objectives be met and outline a course of action if targets are not met. There is a wide spectrum of options for how TDM Plans can be enforced. In some areas, developments simply have to make “a good faith effort” to achieve the target levels. In others, like Cambridge, MA, properties face a \$10 per parking space per day fine if in non-compliance with the ordinance and the city also has a right to revoke the landowner’s parking permits if non-compliance continues. Without the willingness to enforce it, a TDM ordinance is not worth pursuing.

Like in Cambridge, TDM Plan requirements are most often enforced through the use of fines, with a few exceptions. In Fairfax County, letters of credit are held and developments that fail to meet the vehicle trip reduction goals are required to use those funds to implement additional TDM plan elements or strategies. Continued failure to reduction goals in Fairfax County can result in the assessment of fines against the penalty fund. In Bloomington, MN the city requires financial guarantees valued at \$50 per parking space. In both places the letter of credit or escrow account funds are returned if the development meets the plan objectives for the required consecutive years. Under current practice in the City, letters of credit or escrowed financial guarantees are used to ensure that commercial developments participate in the Eco Pass programs they have agreed to provide.

In Montgomery County, Maryland and in the Warner Center of Los Angeles, new developments required to have TDM Plans must join their local transportation demand management organization/association (TMO or TMA). In exchange for annual membership fees, the TMO provides programs and services to assist in meeting the target levels. The TMO fees are collected as part of the property's tax assessment. Locally, Boulder Transportation Connections (BTC), in conjunction with DRCOG's Way to GO regional TDM program, could fill a similar role in providing outreach services to assist in the implementation and monitoring of TDM Plans for new developments, which at the same time securing needed funding and cultivating relationships with employers and employees. Instead of membership fees going directly to BTC, any fines imposed on a property could be used to fund BTC outreach to developments that are not meeting their targets. BTC's 2014 scope of work with the city includes conducting evaluations of existing TDM Plans and will commence with evaluations of Two-Nine North on 29th Street and the Whole Foods on Pearl Street this fall.

As the report illustrates, there are a variety of ways to enforce a TDM ordinance and policy makers will need to decide how much "teeth" is the right amount. Before deciding on an enforcement approach, Colorado state and local laws need to be thoroughly reviewed to determine their legality.

***Consideration:** The issue of enforcement and just how much "teeth" is the right amount will be one of the more challenging aspects of a TDM Plan ordinance for new developments. Staff is considering an approach based on the use of escrowed financial guarantees that are set aside by developments. The escrowed funds or financial guarantees would be used to pay for additional programs, services or incentives if a development is in non-compliance with the ordinance. The funds could also be released to the local TMO to be used to provide assistance to the development in question. The level of the financial guarantee would need to be high enough to ramp up a development's TDM Plan if the face of persistent non-compliance or include additional fees if original financial guarantee is spent. Input from the City Attorney's Office will be critical in development of the ordinance and enforcement procedures.*

FUNDING AND STAFFING

If Boulder were to pass a TDM ordinance for new developments, staffing and funding of the program also need to be taken into account. The ability to monitor, evaluate, enforce, and assist improving TDM plans requires time and money. The City should consider how to provide a

sustainable source of funding for the evaluation and enforcement of TDM plans. As previously mentioned some places with ordinance in place, the use of financial guarantees or development impact fees can offset some or all of the cost of monitoring and enforcement. Membership fees to a TMO can also provide funding for evaluation as well as plan modification or the provision of additional services if targets are not being met.

Following the successful ballot initiative for transportation, additional funds from GO Boulder will be used to expand the programs and services provided through BTC including TDM Plan evaluation which is to begin in fall 2014. With staffing limitations with city staff, BTC is a key partner in providing TDM programs and services in Boulder and regionally in conjunction with Boulder County, DRCOG's Way to GO program, 36 Commuting Solutions and Front Range MPO's SmartTrips.

Considerations: *One option to consider is using a portion of the required financial guarantee referenced above to fund the TDM Plan program evaluation which could be performed by the City or the local TMO. Staff considers maximizing the use of BTC for TDM Plan evaluation and monitoring. For example, funds could be funneled directly to BTC to perform the evaluations. Another option could be to fund the annual evaluations through required annual membership fees to BTC. If the City wanted program evaluation funds to be separated from TDM Plan financial guarantees, funding could come from increased development excise taxes or impact fees.*



Boulder Resident Survey: HIGH MAR

Continued...

04. (ONLY IF ANSWERED "No" to question 1): During the last five weekdays, did you leave your home between 6:00 am and 9:00 am at least once?

- Yes
 No » Skip to Question 6

05. How did you get to your destination? If you used more than one travel mode in a single trip and it is not listed below, select the mode you were using when you left your home.

	Monday	Tuesday	Wednesday	Thursday	Friday
Drove alone					
Bus					
Bike					
Drove with somebody else (Carpool/Vanpool)					
Combined bike/bus					
Drove to RTD park-n-ride, then bus					
Uber/Lyft/Taxi					
Walk					
Other					

06. Are any of the following available at your residence?

	Available	Not available	I don't know
Outdoor Bike racks			
Secure bike parking (outside your apartment, such as bike lockers, bike cage/room)			
Bikeshare (bikes onsite that you can check out)			
Information about ways to find carpool partners			
Discount EcoPass for residents			
Free EcoPass for residents			
A packet with transportation information (transit, carpooling, biking/walking, etc.)			
Kiosk/bulletin board with commute information (transit schedules, etc.)			
Carshare vehicle onsite (eGo, ZipCar or Car2Go)			
Free bikeshare membership			
Free carshare membership			

07. Where do you usually park your car at your residence?

- Assigned parking space in garage or lot
 On the street
 Unassigned parking space in garage or lot
 I do not own a car

Please provide your contact information if you would like to be enrolled in our prize drawing.
The information is strictly confidential and will only be used to contact you if you are a prize winner.

Name: _____
 Email: _____
 Phone: _____

Please return this survey to: _____

or mail to: _____