



WHAT'S INSIDE:	<u>Page</u>
Calendar Details	2
<u>Agenda Notes:</u>	
Agenda Items #2 and #13 – Managed Lanes Strategy for Charlotte.....	2
Agenda Item #3 – Fiscal Year 2015 Comprehensive Annual Financial Report and External Audit.....	3
<u>Information:</u>	
January 14 – Charlotte Douglas Area Strategic Development Plan Neighbors’ Event.....	3
CATS Granted Pre-Award Authority to Begin Vehicle Procurement for Gold Line Phase 2.....	3-4
NC General Assembly Interim Committee Update.....	4
Fiscal Year 2014 Greenhouse Gas Emissions Inventory for City Operations Report Released	4-5
<u>Attachment:</u>	
City Council Follow-Up Report.....	5
--Citizens’ Forum – Tarp on Roof at 4238 Donnybrook Place (Vincent Frisina)	

WEEK IN REVIEW:

Mon (Jan.11)	Tues (Jan. 12)	Wed (Jan. 13)	Thurs (Jan. 14)	Fri (Jan. 15)
12:00 PM Council Agenda Briefing (optional), 15 th LCR		12:00 PM Housing & Neighborhood Development Committee, Room 280	12:00 PM Community Safety Committee, Room 280	
3:00 PM Environment Committee, Room 280				
5:00 PM Council Business Meeting, Room 267				

CALENDAR DETAILS:

Monday, January 11

- 12:00 PM Council Agenda Briefing (Optional), 15th floor Large Conference Room
- 1:30 PM Budget Committee, Room CH-14
AGENDA: Budget committee work plan update; Budget process calendar; FY16 budget outlook report content; FY17-FY21 Community Investment Plan overview; General fund fund balance policy;
- 3:00 PM Environment Committee, Room 280
AGENDA: Environment committee overview; Introduction to focus area plans; Solid Waste Services review; 2016 meeting schedule
- 5:00 PM Council Business Meeting, Room 267

Wednesday, January 13

- 12:00 PM Housing & Neighborhood Development Committee, Room 280
AGENDA: Neighborhood revitalization listening tour update; Proposed neighborhood matching grants program review; Neighborhood leadership awards update; FY17 Housing & Neighborhood focus area plan discussion

Thursday, January 14

- 12:00 PM Community Safety Committee, Room 280
AGENDA: Passenger vehicle for hire ordinance review; Towing and booting ordinance; 2016 meet schedule

January and February calendars are attached.



Jan-Feb 2016.pdf

AGENDA NOTES:

Agenda Items #2 and #13 – Managed Lanes Strategy for Charlotte

Staff Resources: Debra Campbell, City Manager's Office, 704-336-2671, dcampbell@charlottenc.gov
Danny Pleasant, CDOT, 704-336-3879, dpleasant@charlottenc.gov

The following attachment contains responses to questions by City Council members related to the regional managed lanes strategy, and individual managed lanes projects, including I-77 North. The responses were produced by members of the TCC and NCDOT staff.



Response to questions and objecti

Agenda Item #3 – Fiscal Year 2015 Comprehensive Annual Financial Report and External Audit

Staff Resource: Randy Harrington, M&FS, 704-336-5013, rjharrington@charlottenc.gov

Robert Campbell, M&FS, 704-336-7905, rcampbell@charlottenc.gov

The fiscal year 2015 Comprehensive Annual Financial Report (CAFR) is included in today's mail packet for Council's information and review. On January 11, 2016 a formal presentation of these financial statements will be made during the City Council dinner briefing. The presentation will be made by Randy Harrington and Robert Campbell from Management & Financial Services and the external auditor, Eddie Burke from Cherry Bekaert LLP. Following the presentation, the report will also be available online at this link:

<http://charmeck.org/city/charlotte/MFS/finance/Pages/Publications.aspx>

INFORMATION:

January 14 – Charlotte Douglas Area Strategic Development Plan Neighbors' Event

Staff Resources: Brent Cagle, Aviation, 704-359-4035, bdcagle@cltairport.com

The Airport Area Strategic Development Plan project team will host a Neighbors' Information Update Event on Thursday January 14, 2016, from 6:30 – 8:00 p.m. at the Sheraton Charlotte Airport Hotel located at 3315 Scott Futrell Drive, 28208. The meeting is a part of the stakeholder outreach and communications plan for the plan.

Event attendees will be able to learn about the strategic development plan process, meet the project team, and share their input on the project. The primary purpose of the meeting is to advise residents of the start of the development plan study. Aviation sent postcard invitations to the meeting to all residences and businesses within the project study area.

Upcoming Airport Area Strategic Development Plan events:

- A community meeting is planned for April 12 to report initial development concepts and seek input through interactive exercises.
- A second community meeting is planned for June 25 to reveal the working plan and gather feedback on the strategy.

CATS Granted Pre-Award Authority to Begin Vehicle Procurement for Gold Line Phase 2

Staff Resources: David McDonald, CATS, 704-336-6900, dmdonald@charlottenc.gov

The Charlotte Area Transit System has achieved another milestone in the CityLYNX Gold Line Phase 2 Streetcar Project. While the Federal Transit Administration's (FTA) Small Starts grant has not yet been awarded, the FTA has granted CATS a Letter of No Prejudice (LONP) to begin the vehicle procurement process.

This LONP gives CATS the pre-award authority to begin vehicle procurement that is a lengthy process and is essential to completing the project by late 2019. This pre-award authority

ensures that expenses incurred in the procurement of the vehicles will be eligible for reimbursement once the final Small Starts Grant is awarded. Based upon the current schedule, the City Council award of the vehicle contract is anticipated to be in July, 2016 after a final Small Starts Grant is awarded.

Through the vehicle procurement process, CATS is seeking acquisition of seven modern streetcars with an option for off-wire operation. The completed Phase 2 project will be a 4-mile operating system with seven modern streetcars.

NC General Assembly Interim Committee Update

Staff Resource: Dana Fenton, City Manager's Office, 704-408-7393, dfenton@charlottenc.gov

Two NC General Assembly interim committees of interest to the City met this week. The meetings are summarized as follows.

House Select Committee on Strategic Transportation Planning and Long Term Funding Solutions

This committee met on Monday, January 4 and is composed of 22 House members. Representatives Bradford, Carney, and Jeter are members of the Committee. The full Committee heard presentations on the Governor's 25 Year Vision for Transportation, strategic transportation investments program, ports, logistics, and federal funding, and the subcommittees heard presentations on interstate highway corridors, primary and secondary roads, deficient bridges, freight rail, public transportation, aviation, and aid to municipalities (Powell Bill). While staff did not make any presentations on the I-77 managed lanes project, Committee members did raise a few questions about the project during Committee Discussion but the members did not engage in substantive discussion. The Committee and its subcommittees next meet on January 25. Presentations can be viewed by [clicking here](#).

Joint Legislative Transportation Oversight Committee

This committee met on Friday, January 8 and is composed of 27 members from the House and Senate. Senator Ford and Representatives Brawley, Carney, Jeter, and R. Moore are members of the Committee. The Committee heard presentations on amendments to the statewide transportation improvement program, Department of Motor Vehicle reform, ports, freight rail, and the turnpike authority. No members of the Committee raised any questions about the I-77 managed lanes project. The Committee next meets on February 5. Presentations can be viewed by [clicking here](#).

Fiscal Year 2014 Greenhouse Gas Emissions Inventory for City Operations Report Released

Staff Resource: Rob Phocas, NBS, 704-336-7558, rphocas@charlottenc.gov

Neighborhood & Business Services Office of Sustainability has completed a greenhouse gas emissions (GHG) inventory for City operations in Fiscal Year 2014. The FY14 GHG inventory is the third inventory with previous inventories conducted in FY06 and FY09.

This inventory is an important step in measuring the City's carbon footprint and beginning to

make progress in reducing its carbon footprint to zero in accordance with the goals of the Environment Focus Area Plan.

The City operations in the inventory include:

- Buildings, facilities, street lights, and traffic lights;
- Water and wastewater treatment facilities;
- Transit Fleet;
- Vehicle Fleet;
- Solid Waste (City-owned landfills);
- Process and fugitive emissions (refrigerants used in vehicle cooling).

During FY14, City operations released approximately 230,000 metric tons of carbon dioxide equivalents (CO₂e). CO₂e is a term used for describing different greenhouse gases, like carbon dioxide, methane, and nitrous oxide, in a common unit. Overall, City operations emissions have decreased between FY06 and FY14.

The full report (attached) draws some comparisons between the previous inventories; however, the data is not consistent across all three inventories. Moving forward, the use of a Quality Management Plan will ensure consistent data collection, inventory reporting, and comparisons.



010816_Attachment
_GHG FINAL Report F

The full report can also be found on www.Power2Charlotte.com/2Lead. The next steps following the release of this report include:

- a. Developing a Quality Management Plan for GHG emissions inventories.
- b. Working with departments to benchmark and set target reduction goals.
- c. Working with departments to identify GHG emission reduction strategies.
- d. Collaborating with other cities to examine best practices and benchmark.

ATTACHMENTS:

City Council Follow-Up Report:



8--January.pdf

--Citizens' Forum – Tarp on Roof at 4238 Donnybrook Place (Vincent Frisina)

January

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>	
					1 New Year's Day	2	
3	4 12:00pm Transportation & Planning Committee Mtg., Room 280 3:00pm Retreat Planning Committee Mtg., 15 th Floor LCR 5:00pm Council Workshop/Citizens' Forum, Room 267	5	6	7 12:00pm ED & Global Competitiveness Committee Mtg., Room CH-14	8	9	
10	11 12:00pm Council Agenda Briefing (optional), 15 th Floor LCR 1:30pm Budget Committee Mtg., Room CH-14 3:00pm Environment Committee Mtg., Room 280 5:00pm Council Business Mtg., Room 267	12	13 12:00pm Housing & Neighborhood Development Committee Mtg., Room 280	14 12:00pm Community Safety Committee Mtg., Room 280	15	16	
17	18 Martin Luther King, Jr. Holiday	19 12:00pm Council Agenda Briefing (optional), 8 th Floor Conf. Room 2:00pm Intergovernmental Relations Committee Mtg., Room 280 5:00pm Zoning Meeting, Room CH-14 6:00pm Neighborhood Revitalization Listening Tour, 6800 Monroe Rd.	20	21 12:00pm ED & Global Competitiveness Committee Mtg., Room CH-14	22	23	
24	25 12:00pm Council Agenda Briefing (optional), 15 th Floor LCR 12:00pm Governance & Accountability Committee Mtg., Room 280 5:00pm Citizens' Forum/Council Business Mtg., Room 267	26	27 City Council Retreat Graylyn, Winston-Salem, NC			28	29
30						31	

2016

February

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
	1	2	3	4	5	6
7	8 12:00pm Budget Committee Mtg., Room 280 5:00pm Council Business Mtg., Room 267	9	10	11 12:00pm ED & Global Competitiveness Committee Mtg., Room CH-14	12	13
14	15 5:00pm Zoning Meeting, Room CH-14	16	17	18	19	20
21	22 5:00pm Citizens' Forum/Council Business Mtg., Room 267	23	24 1:30pm Budget Workshop, Room 267	25 12:00pm ED & Global Competitiveness Committee Mtg., Room CH-14	26	27
28	29 1:30pm Budget Committee Mtg., Room 280					

2016

From Council Member Smith

1) Can the I-77N project be legally separated from 485 and 74? Can it be scored as a stand-alone project?

While the managed lanes projects were planned collectively as a network of interoperable facilities, each of the projects has been designed and developed independently of each other. I-77 can be scored as a standalone project.

2) Who has authority to cancel the contract with CINTRA?

The NCDOT Secretary signed the contract with CINTRA and has the authority to cancel the contract.

3) Who pays the termination fee if the CINTRA contract is canceled?

The State of North Carolina, through the NCDOT, is the contracting agency responsible for any penalties resulting in terminating the contract for convenience. It is not known how the state would pay for the penalty. A bill was drafted in the General Assembly to withhold sales tax distribution from municipalities and counties where their governing boards voted to cancel the project to raise the funds needed to cover the penalties. The bill has not moved to approval.

4) What are the construction project savings if the CINTRA contract is canceled?

The total cost of the 26-mile project is \$650 million with the majority to be funded by the concessionaire through the public-private partnership. NCDOT allocated \$95 million toward the construction cost and has reserved \$75 million for ensuring the concessionaire meets revenue goals in the early years. The total of \$170 million is the maximum amount CRTPO authorized for the project. It would be difficult to separate the construction cost from the total cost of the project since it is being delivered as a design-build-maintain-operate-finance project by a private sector partner. If the Charlotte region forfeited funding for the project, the money would be reprioritized through the statewide process with no guarantee the funds would remain in the Charlotte region. In addition, the project brings \$144 million in bonus allocation dollars, \$77 million of which CRTPO allocated to direct access ramps in Charlotte at Lakeview Rd and Huntersville at Hambright Rd. Approximately \$70 million for other projects funded through the bonus allocation benefit the Lake Norman communities and will also go away if the project is cancelled. If the money is not spent on the corridor, there would be no additional capacity or opportunities for premium transit service.

5) What is the price differential between proposed toll rates on 485 and I-77N?

The primary purpose for the managed lanes strategy is to provide reliable travel times for transit users, vanpools, carpools, and emergency responders as well as motorists willing to pay tolls to use the toll lanes. Toll rates for each of the projects will vary by time of day depending on traffic demand. While we can get a general idea of the rates used in

other cities, it is premature to understand fully how the rate structures from the two projects would compare.

6) Can a Transportation Improvement Program (TIP) be amended?

Every August, CRTPO must adopt a TIP and submit it to the state to be found in concurrence with the Statewide TIP. NCDOT encumbered the \$95 million for construction of the I-77 managed lanes project as part of the prior year TIP (FY 2015.) So the funding does not reside in the current TIP, but in an encumbered project account. If CRTPO rejected the managed lanes project, then up to \$170 million (\$95 million + \$75 million in reserve) could be available for redistribution statewide. Funding for Bonus Allocation projects in the Charlotte region are programmed in the current TIP, which would be forfeited if the managed lanes project is cancelled.

7) Did the NCGA vote to approve the contract with CINTRA?

The NCGA does not vote on contracts. It passed legislation authorizing NCDOT to enter into public-private partnership agreements, such as the one resulting in the contract with CINTRA.

8) What is CRTPO's process for amending the TIP or changing courses?

Amending the TIP requires a multi-step process including findings and air quality conformity analysis, TCC review and recommendation, CRTPO review and approval, and NCDOT review and approval. The process requires four to six months, and may take longer. A change in regional transportation strategy, such as elimination of the regional managed lanes strategy, would require amending the Metropolitan Transportation Plan (MTP), which is more complex than amending the TIP. The funds for implementing the I-77 North project through the P3 project delivery method were programmed in 2013. The TIP adopted at that time has been replaced. The current TIP does not include the funds necessary to build the I-77 project but includes only the Bonus Allocation funds. The funds previously programmed for I-77 North are now controlled by NCDOT. The CRTPO could express its desire for the NCDOT to cancel the project through a letter to the governor or NCDOT secretary.

9) Will I-77 be tolled in SC?

The South Carolina DOT and jurisdictions immediately south of the state line participated in the regional managed lanes study and have expressed interest in managed lanes. However, SCDOT currently has no plans to widen I-77 beyond its current configuration.

10) What are the consequences and costs to carry over the decision to the February CRTPO meeting?

The letter from the governor strongly urged CRTPO to make a decision at its next meeting, January 20th. Delaying a decision allows the concessionaire another month to

mobilize and advance construction of the project, which could increase the termination penalty.

11) What have been the vote tallies for the managed lanes when CRTPO has voted (going back to 2008)

See Attachment A.

From Council Member Phipps:

- 1) If the contract with CINTRA is cancelled, how will the cancellation penalty be calculated, and will there be apportionment to the respective municipalities in the CRTPO region to satisfy payment?**

According to a review last October by the State Auditor's Office, the cancellation cost would range between \$80 million to \$300 million. The cost likely would be based on expenditures incurred by the concessionaire for design, financing, administration, mobilization, materials and construction completed to date. It also will include a calculated future value of revenues collected through the asset over the 50-year term of the contract. To say the least, it would keep accountants and lawyers busy for months and possibly years to settle on an amount. The State of North Carolina, through the NCDOT, is the contracting agency responsible for any penalties resulting from terminating the contract for convenience. It is unknown how the state would pay for the penalty. A bill has been drafted in the General Assembly to withhold sales tax distribution from municipalities and counties where their governing boards voted to cancel the project to raise the funds needed to cover the penalties. The bill has not moved to approval.

- 2) How will future State funding of BLE construction/completion be impacted if the CINTRA contract is terminated? How likely is it that funding the BLE could be diverted to help defray costs associated with the contract termination penalty?**

The General Assembly has at its disposal funds that could be allocated for any purpose to cover the cost of the penalties. At this point it is impossible to tell which source of funds the General Assembly might pick to pay for the potential penalty. Currently we know a bill has been drafted to withhold sales tax distribution from municipalities and counties where the governing boards voted to cancel the project to cover the cost of any penalties.

- 3) Who among the CRTPO municipalities have come out against the managed lane strategy for northern Mecklenburg County**

As recently as April 16, 2014 the CRTPO unanimously supported the managed lanes strategy through the adoption of its 2040 Metropolitan Transportation Plan. The CRTPO has not voted on the full managed lanes strategy since then. On April 7, 2015, Matthews and Mint Hill opposed a motion to preserve the recently completed full depth paved shoulders on I-485 for future use as optional toll lanes. The weighted vote was 47-4 in support with the delegate vote at 12-2. On August 19, 2015 MPO approved the FY2016-FY2025 Transportation Improvement Program, including projects to widen I-77 from I-485 to I-277 with optional toll lanes, to widen I-485 from I-77 to U.S. 74 with optional toll lanes, and to implement optional toll lanes on Independence Boulevard. Weighted vote was 54-10; delegate vote was 18-7. Cornelius, Davidson, Fairview, Iredell County, Marvin, Mecklenburg County, and Pineville opposed. Attachment A is a full timeline of votes related to managed lanes.

From Council Member Eiselt

1. Is YES a vote for this as A strategy vs THE strategy.

- a. Is it possible to vote YES for managed roads strategy with a caveat that a hold on the I77N project be placed for a full contract review based on fact that there are many questions around what we have signed up for? What are the implications for I77N in the case of a NO vote?**

It is possible to vote to affirm the managed lanes strategy and request NCDOT to delay the I-77N project for a period while the community reviews the contract. Delaying the I-77N project could disrupt the concessionaire's contractual obligation to deliver the project by 2018. Any delay imposed by NCDOT could result in a damage claim by the concessionaire against NCDOT.

The governor's request to affirm or reverse the managed lanes strategy stated: "if the strategy of using optional toll lanes is no longer supported by your regional transportation planning organization, a new regional transportation plan would have to be created because there are four projects in the current plan that would be affected." Current allocations for the four projects add up to \$1.2 billion.

2. Does the Vote to affirm Managed Lanes as a strategy essentially solidify the outcome of the CINTRA contract?

The I-77N corridor is part of the overall managed lanes strategy along with U.S. 74, the southern segment of I-485, and I-77 South. The CINTRA contract is within NCDOT's control. Theoretically NCDOT could decide to cancel the contract without changing the strategy. But for practical matters, stopping a managed lanes project when the project is under construction would call into question the region's commitment to the overall concept. The governor's letter, along with comments by the NC Board of Transportation Chair at the Jan. 4th Transportation and Planning Committee meeting, suggests the state might be unwilling to continue funding the other managed lanes projects.

From Council Member Driggs:

- 1. The I-485 toll lanes are not being financed by toll proceeds. What are the obstacles to completing the project as general-purpose lanes?**

The primary purpose of the toll lanes is to manage congestion through variable pricing and provide space for premium transit service. Regardless of the funding source, this remains a primary benefit of managed lanes. We know from experience in Charlotte and other fast growing cities that adding general purpose lanes is a short term fix at best without long term benefits. The construction of toll lanes on I-485 is not being financed by toll revenues. However, the future use of revenues for enhanced operations and maintenance, transit and ridesharing would support the purposes of the managed lanes.

- 2. If the toll lane strategy is voted down by CRTPO, what would happen to the roads now targeted for managed lanes? How long would it take to get general purpose lanes funded and built, particularly on I-485?**

Assuming CRTPO voted to reverse its commitment to the managed lanes strategy, it is likely to remove \$200 million in funding from the current TIP for I-485, \$400 million for U.S. 74 and \$275 million for I-77 South. That amounts to a loss of 38 lane miles of new capacity on I-485, 12 lane miles on US 74 and 36 lane miles on I-77. A change in project scope to substitute general purpose lanes in place of managed lanes would need to be reprioritized through NCDOT's Strategic Transportation Investment (STI) process. The next opportunity to submit projects for scoring is 2017, which would delay funding for the projects beyond 2022. All of these projects would require lengthy construction periods, which would delay opening of the projects to traffic to no earlier than 2025 and more likely until 2030.

- 3. If revenue from managed lanes on I-485 and I-74 exceeds the cost of operating the tolling equipment, how will it be applied?**

No answer has been determined. If CRTPO affirms its managed lanes strategy, City and CRTPO staffs will start discussions with NCDOT on a formal agreement outlining how future operational decisions are made including design, operations, eligibility of user, enforcement, and customer service as well as how to use any excess toll revenues.

- 4. Has an economic impact study been performed to assess the effect of managed lanes vs general purpose?**

The concept of managed lanes has been compared to continued implementation of general purpose lanes. In addition to providing access to areas of a city or region, the primary economic benefit of adding transportation capacity consists of providing mobility. Managed lanes, especially HOT lanes, provide faster and more reliable travel times than general purpose lanes. Studies done of corridors in the US where managed lanes have been implemented show that speeds on the general purpose lanes have also increased. Therefore, both categories of motorists – in the HOT lanes and in the general purpose lanes – have derived an economic benefit of travel time savings. Recent experience in Charlotte demonstrates that investment in infrastructure, whether light rail

or the completion of the I-485 northern link, accelerates economic development. Other fast growing cities similar to Charlotte have experienced substantial economic growth along corridors with managed lanes.

5. Is data available to prove the claim that traffic congestion is eased more by adding managed lanes than it would be by adding general purpose lanes?

Data shows that congestion in the general purpose lanes can, and has, decreased when managed lanes are introduced. Specifically, travel speeds improve and remain more stable on general purpose lanes when managed lanes are provided. Some of the cities with this experience include Miami, Los Angeles, and San Diego among others.

6. Norm Steinman explained that managed lanes create an incentive toward multi-occupancy vehicles and alternative modes of transportation. Do we have an analysis of how big a shift away from single-occupant vehicles can be expected?

Many variables determine whether drivers will shift to transit, vanpools, or carpools once HOT lanes are available. Some of the variables include the locations of homes and jobs, commuting patterns, and robustness of transit service. One thing is clear, the benefit to transit riders and carpool participants occurs only if the facility is there. The table below indicates the levels of ridership measured for buses traveling in HOT lanes in regions across the U.S. Each of the projects in the Charlotte region have been included in the regional travel demand forecasting model, which calculates the number of people expected to use the lanes by mode.

Bus Ridership in Other Managed Lanes Corridors

Region	Corridor	Weekday Bus			
		Trips ^a	Riders	Rider Count Period(s)	Riders/Trip
Orange Co.	SR-91	39	450	March 2010; Oct 2011	12
San Diego	I-15	141	2,158	Spring 2011; Nov 2011	15
Houston	I-10	391	8,027	Fiscal Year 2011	21
Houston	US-290	236	4,526	Fiscal Year 2011	19
Minneapolis	I-394	548	12,141	Calendar Year 2011 (est)	22
Salt Lake City	I-15	76	3,477	Calendar Year 2011	46
Denver ^b	I-25	434	14,840	Aug – Dec 2011	34
Seattle	SR-167	88	2,334	Oct-Dec 2011; Dec 2011	27
Miami	I-95	259	4,286	June 2011	17
Minneapolis	I-35W	495	11,647	Calendar Year 2011 (est)	24
Bay Area ^c	I-680	30	307	Calendar Year 2011	10
Atlanta	I-85	133	3,179	Sept 12 – Oct 7, 2011	24

^a Trips based on January 2012 schedules.

^b The B, L, and 120X routes also operate some service in the reverse commute direction. This service does not use the HOT lanes, but the data on those trips and ridership are included in these totals.

^c Since the Bay Area (I-680) HOT Lane is southbound only, only buses running in that direction and their ridership are counted.

Table: Center for Neighborhood Technology as published in the *Journal of Public Transportation*, Vol. 17, No 3 (2014)

- 7. If the effectiveness of managed lanes depends on motivating single-occupant drivers to use alternative modes of transportation, does our overall transportation strategy reflect the current availability of these modes in Charlotte and how we would pay for the ones that don't already exist?**

The Centers, Corridors, and Wedges Growth Strategy contains the fundamental principles for guiding Charlotte's growth. All of the corridors are expected to include premium choices such as light rail, commuter rail, and express bus service. The I-485 corridor connects two of the city's largest employment centers: Ballantyne and the Westinghouse/Arrowood areas. The first goal of the city's transportation plan speaks to supporting the Centers, Corridors, and Wedges Growth Strategy.

The effectiveness of managed lanes also is based on the demonstrated self-interest of motorists to travel on the route providing the fastest and most reliable travel times. The effectiveness of managed lanes depends primarily on attracting motorists away from congested general purpose lanes.

- 8. Please provide the latest financial statements for I-77 Mobility Partners.**

A balance sheet statement from I-77 Mobility Partners was sent to City Council under separate cover. This link to the CINTRA website provides insight into the company's financial condition: <https://www.CINTRA.es/en/Company/Financial-information>

- 9. Many of the issues related to I-77 are different from those for the other managed lane projects. Why is it not possible to modify or cancel the I-77 contract without throwing out the other toll lanes?**

NCDOT has the authority to cancel its contract with CINTRA without the CRTPO reversing its managed lanes strategy. The governor's letter, along with comments by the NC Board of Transportation Chair at the Jan. 4th Transportation and Planning Committee meeting, suggests the state might be unwilling to continue funding the other managed lanes projects.

- 10. Why is Charlotte City Council's vote on managed lane policy different from its vote on how to direct our CRTPO vote? If we vote no to toll lanes, we would presumably not vote in favor of reaffirming the transportation plan, and vice versa. Specifically, do we have the option of reaffirming the plan and saying no to the 3P contract?**

The governor's CRTPO request is to affirm or reverse support for the managed lanes strategy, which will be reflected in the CRTPO agenda. Therefore the City Council will be directing its delegate to vote to either support the strategy or not. According to the governor's letter, the CRTPO would be required to create a new regional transportation plan since four corridors in the current plan would be affected. The P3 contract is between NCDOT and the concessionaire. The CRTPO has no authority over the contract but can ask the State to cancel it.

From Council Member Austin

- 1. If we direct our CRTPO representative to vote NO on the policy directive around managed lanes, what happens to the entire regional transportation plan? For example: Does CRTPO have to develop an entire new plan or can they simply modify parts of the current plan? How long will this process take? Does this stop other projects that are part of the current plan from moving forward? What will happen to the US- 74 and I-485 projects which are state managed? Will they stop?**

The Governor's request of the CRTPO is to affirm or reverse its support for the managed lanes strategy, which will be reflected in the CRTPO agenda. Therefore the City Council will be directing its delegate to vote to either support the strategy or not. According to the Governor's letter, the CRTPO would be required to create a new regional transportation plan since four corridors in the current plan would be affected. If the CRTPO representative is instructed to vote no on the managed lanes policy directive, both the local Metropolitan Transportation Plan and the 2016-2025 Transportation Improvement Program would require amendments. It is worth noting that the MTP is updated every four years, and that a new plan is scheduled to be voted on in 2018. Based on the December 1, 2015 Letter from Governor McCrory, it appears that all managed lanes projects proposed for Mecklenburg County would be stopped.

- 2. Within this regional plan, does CRTPO not have the ability to make a modification to one part of the plan without dismantling the entire plan? For example, could they make a decision to still move forward with the manage lane concept on I-77 north, but not make it a P3? Could it be a state managed project?**

CRTPO has the ability to make a modification to one part of the plan without dismantling the entire plan. If NCDOT chose to move ahead with the I-77N project without the P3 approach, the Secretary would need to cancel the contract first. In practical terms, there is no financial plan in place to advance the project without the concessionaire. The full cost of the project over the 50 year contract term is \$650 million. NCDOT is authorized by CRTPO to spend no more than \$170 million in NCDOT funds on the project. The project would be reassessed to determine if it qualified for NCDOT funding. The reassessment would not occur until 2017.

- 3. If we direct our CRTPO representative to not move forward with the current regional transportation plan, does this affect any of our federally funded projects? The Blue Line, the Gold Line, Gateway project? Does this affect any of the other transportations projects around the state or region?**

At this time, we are unaware of impacts to other local, regional or state projects if the current Metropolitan Transportation Plan (MTP) is amended. However a bill has been drafted in the General Assembly to withhold sales tax distribution from municipalities and counties where the governing boards voted to cancel the project to raise funds to cover the cost of the penalites.

- 4. At this point, a contract has been signed by the state and CINTRA and work has begun on this project on the I-77 North project. Please provide a list of consequences and ramification of trying to back out of this contract? I am looking for legal and political? These include:**

- a. I am told there will be a penalty of \$80M to \$300M? I need a copy of the language in the contract that states this? And a copy of the contract.**

According to a review last October by the State Auditor's Office, the cost of cancellation would range between \$80 million to \$300 million per year. The cost likely would be based on expenditures incurred by the concessionaire for design, financing, administration, mobilization, materials and construction completed to date. It also will include a calculated future value of revenues collected through the asset over the 50 year term of the contract. To say the least, it would keep accountants and lawyers busy for months and possibly years to settle on an amount. The State of North Carolina, through the NCDOT, is the contracting agency responsible for any penalties resulting from terminating the contract for convenience. It is unknown how the state would pay for the penalty. A bill was introduced in the General Assembly to withhold sales tax distribution from municipalities and counties where their governing boards voted to cancel the project to raise the funds needed to cover the penalties. The bill did not move to approval. The link to the contract is as follows:

<http://www.ncdot.gov/projects/i-77expresslanes/download/ExecutedComprehensiveAgreement.pdf>.

- b. Who will pay for this cancellation of the contract? Where does the money come from? Will the tax payers who are part of the CRTPO regional planning group be burdened with the cost of the cancellation?**

The State of North Carolina, through the NCDOT, is the contracting agency responsible for any penalties resulting in terminating the contract for convenience. It is not known how the state would pay for the penalty. A bill was introduced in the General Assembly last year to withhold sales tax distribution from municipalities and counties where their governing boards voted to cancel the project to raise the funds needed to cover the penalties. The bill did not move to approval.

- c. Who has the power to cancel this contract? Where does this power lie? CRTPO or the Governor/Secretary of Transportation?**

The NCDOT secretary signed the contract with CINTRA and has the authority to cancel the contract.

- d. Even if we vote NO to the policy of HOT/Managed lanes, does this automatically mean that the Governor or Secretary will cancel the contract?**

No. However, the December 1, 2015 letter from the Governor implies strongly that without CRTPO reaffirmation the projects may be cancelled.

5. As I understand the structure of CRTPO, Does Charlotte have 31 votes or 45 votes? I have seen several different representations of this.

a) Clarify how many votes does Charlotte have?

Charlotte has 31 votes.

b) How many total votes are there?

There are 68 total votes. Charlotte has 45% of the total votes but 61% of the population share.

c) Even if Charlotte says YES to moving forward with the HOT/Managed Lanes, does the number of NO votes outweigh our YES votes at this point?

We cannot speculate at this point. Attachment A is a summary of past votes.

d) I would like to know where other CRTPO representatives are on their votes at this point. For example:

- a. Huntersville – No – how many votes**
- b. Lake Norman – No – how many votes**
- c. Mecklenburg County – No- how many votes**

Huntersville and Mecklenburg County each have two votes. There is no Lake Norman governmental body, however, that area is represented on the Board by the towns of Cornelius (2 votes), Davidson (1 vote) and Mooresville (2 votes). We do not know how other CRTPO representatives plan to vote at this time.

6. What other US city has CINTRA contracted with? How long? Has that work moved forward on scheduled? Have there been any issues?

CINTRA currently has several projects active in US cities. Some examples include:

- Chicago, IL – Chicago Skyway – 99 year term
- Dallas/Fort Worth, TX – LBJ Express – 52 year term
- Dallas/Fort Worth, TX – N. Tarrant Express – 52 year term
- Fort Worth, TX – NTE Highway 35W – 52 year term
- Austin/San Antonio – State Highway 130 – 55 year term

We are aware of only one project, the I-90 Indiana turnpike, that resulted in bankruptcy. The project failed primarily due to the downturn in the economy in 2008. The debt was restructured and CINTRA continued to meet the project's performance standards. There was no loss to the public sector. The facility remains available to the traveling public and continues to operate as planned.

We have been unable to find a case where any managed lane project failed to deliver the service promised.

7. What other international cities has CINTRA with? How long? Has that work moved forward on scheduled? Have there been any issues?

CINTRA's website list 28 concessionaire projects world-wide. Some international examples include the following:

- Toowoomba, Queensland, Australia – 25 year term
- Toronto, Ontario, Canada – 30 year term
- Bucaramanga-Barrancabermeja - Yondó, Colombia – 25 year term
- Madrid and Toledo, Spain – 65 year term
- Central Greece – 30 year term
- Republic of Ireland – 30 year term
- North Coast, Portugal – 30 year term
- Escocia, UK – 33 year term

We do not have information regarding the success or failure of these projects.

8. What other cities have similar P3 contacts with the 50 year length and similar structures like this one?

CINTRA currently has several projects active in US cities. Some examples include.

- Chicago, IL – Chicago Skyway – 99 year term
- Dallas/Fort Worth, TX – LBJ Express – 52 year term
- Dallas/Fort Worth, TX – N. Tarrant Express – 52 year term
- Fort Worth, TX – NTE Highway 35W – 52 year term
- Austin/San Antonio – State Highway 130 – 55 year term

Only one, the I-90 Indiana Turnpike, has resulted in bankruptcy. The project failed primarily due to the downturn in the economy in 2008. Even though, the debt was restructured and the operations of the project continued that the CINTRA continued to meet the projects performance standards.

9. What happens if CINTRA folds or changes hands?

The contract with CINTRA includes a provision that allows for the sale of the toll facilities. If CINTRA fails to comply with the terms of the contract, NCDOT would exercise the remedies outlined in the contract. For example if the concessionaire fails to complete the project on time, it will be subject to liquidated damages in the amount of \$10,000 per day. If the concessionaire were to default on its debt, the state's liability would be zero. The concessionaire bears the risk of the project.

10. What happens after the 50 years?

The facility returns to NCDOT's operating responsibility after the 50 year term expires.

11. Does the contract specifically prohibit the creation of general purpose lane alongside of this managed lane – where does it say this in the contract?

No, but the concessionaire may receive additional compensation if it can demonstrate a loss of revenue resulting from the construction of additional General Purpose lanes.

12. How many companies bid on this work? Who were the other companies?

Four teams responded to NCDOT with interest in qualifying for the project. Only the CINTRA team submitted a bid that met NCDOT's requirements.

13. There have been many allegations about CINTRA – 1) There have been allegations of fraud or bankruptcy. Have these been investigated? Who did the investigation? Where is the report and findings?

We are aware of only one CINTRA project, I-90 located in Indiana, resulting in bankruptcy. The project failed primarily due to the downturn in the economy in 2008. The debt was restructured and CINTRA continued to meet the project's performance standards. There was no loss to the public sector. The facility remains available to the traveling public and continues to operate as planned. Public-private partnerships of this scale are complex and changing economic conditions an element of risk. The contract for the I-77 managed lanes assigns the risk fully to CINTRA.

14. Explain clearly how the manage lane will relieve congestion? This is a part of the education that never happened with the general public.

The lanes will provide reliable travel speeds of at least 45 mph. According to studies by the Federal Highway Administration and our own modeling analysis, some motorists in the early years will move over to managed lanes, freeing capacity on general purpose lanes resulting in travel time saving for all users. In addition, transit riders and others using higher occupancy vehicles will see faster, more reliable travel times.

15. Was there an environmental impact study done on this I-77 managed lane proposal?

Yes. An Environmental Assessment document was signed by the Federal Highway Administration (FHWA) and NCDOT in July 2013.

16. Does the state have money to build a general purpose lane?

No. A change in project scope to substitute general purpose lanes in place of managed lanes would need to be reprioritized through NCDOT's Strategic Transportation Investment (STI) process. The next opportunity to submit projects for scoring is 2017, which would delay funding for the projects beyond 2022. All of these projects would

require lengthy construction periods, which would delay opening of the projects to traffic to no earlier than 2025 and more likely until 2030. Assuming CRTPO voted to reverse its commitment to the managed lanes strategy, it is likely to remove \$200 M funding from the current TIP for I-485, \$400M for U.S. 74 and \$275M for I-77 South. The lost funds would be redistributed statewide according to current law. In addition, the region would lose 38 lane miles of new capacity on I-485, 12 lane miles on US 74 and 36 lane miles on I-77S.

17. Who locally and statewide supports these managed lanes beyond CRTPO?

Raleigh is considering managed lanes. The Charlotte region is the most populous region in North Carolina so more often than not it will pioneer new solutions before other cities within the state. This has been the case for a variety of transportation initiatives such as light rail transit and computer controlled traffic signal system. Fifteen fast growing cities across the U.S. have implemented managed lanes successfully.

18. Is it possible to reaffirm the managed lanes strategy but request a modification of the section of I-77 North that deals with managed lanes in a P3 capacity?

Yes.

19. Can we reexamine this contract, develop a hybrid contract and maintain the other projects?

The contract is between NCDOT and the concessionaire. It is online for anyone to review. Only NCDOT has the authority to cancel or amend the contract. CRTPO may request NCDOT to cancel the contract or modify it. The contract can be amended without disrupting other projects.

20. Have our representatives on the General Assembly weighed in on this issue?

No member of the Mecklenburg County delegation has discussed the technical merits of the managed lanes strategy with CRTPO or CDOT staffs. Several media outlets have reported opposition by Representatives Charles Jeter, John Bradford III, Tricia Cotham, Carla Cunningham, and Beverly Earle and by Senators Jeff Jackson, Joyce Waddell, David Curtis, and Jeff Tarte.

From Mayor Pro Tem Lyles:

1. What problem do HOT lanes solve? And describe that for Charlotte with practical examples- commute times; travel times, etc.

Managed Lanes (HOT) will allow active management of a roadway facility to provide reliable travel times during peak demand periods. HOT lanes also encourage transit and ridesharing, preserve future operating capacity and flexibility and provide long-term value and sustainability. There will not be freeways built on new alignments in Charlotte, and rights-of-way are constrained on several interstates (I-77 South for example). Managed lanes will allow for future transportation planners to keep traffic moving on interstates or freeways by changing tolls or eligibility requirements.

Traffic will flow to HOT lanes once they are built. Without HOT lanes, traffic will flow toward arterial streets.

2. If we don't have managed lanes, what is the process to request general access lanes?

A new project would need to be included for evaluation in the CRTPO Metropolitan Transportation Plan and the State's Strategic Prioritization of Transportation (SPOT) process. While the current MTP (2040) can be revised, the process will be underway this year to begin work on the 2045 MTP that will be adopted in 2018. The next opportunity to submit projects to the State for the SPOT evaluation will be in 2017.

3. What is the benefit for I-485 that the existing general purpose lane does not provide?

In particular, during peak periods, the general purpose lanes will only become more congested. The managed lanes will provide reliable travel time of at least 45mph during the most congested times of day, into the future.

Speeds on the general purpose lanes will increase when traffic can move into the managed lanes during peak hours.

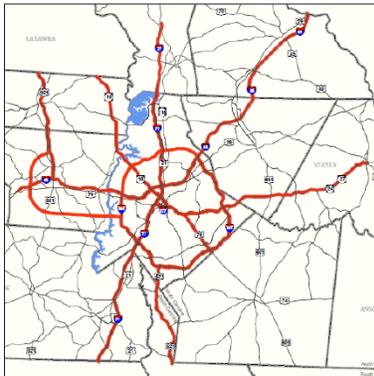
From Council Member Mitchell -- Council Member Mitchell asked to attach the following information:

Local Response to Growth and Congestion

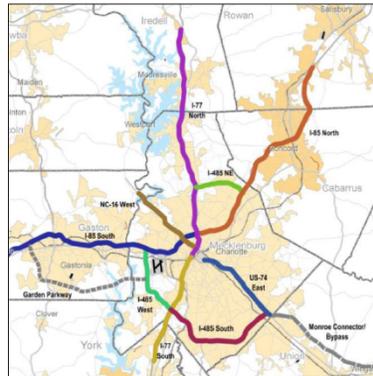
CDOT NCDOT SCDOT MUMPO FHWA CATS



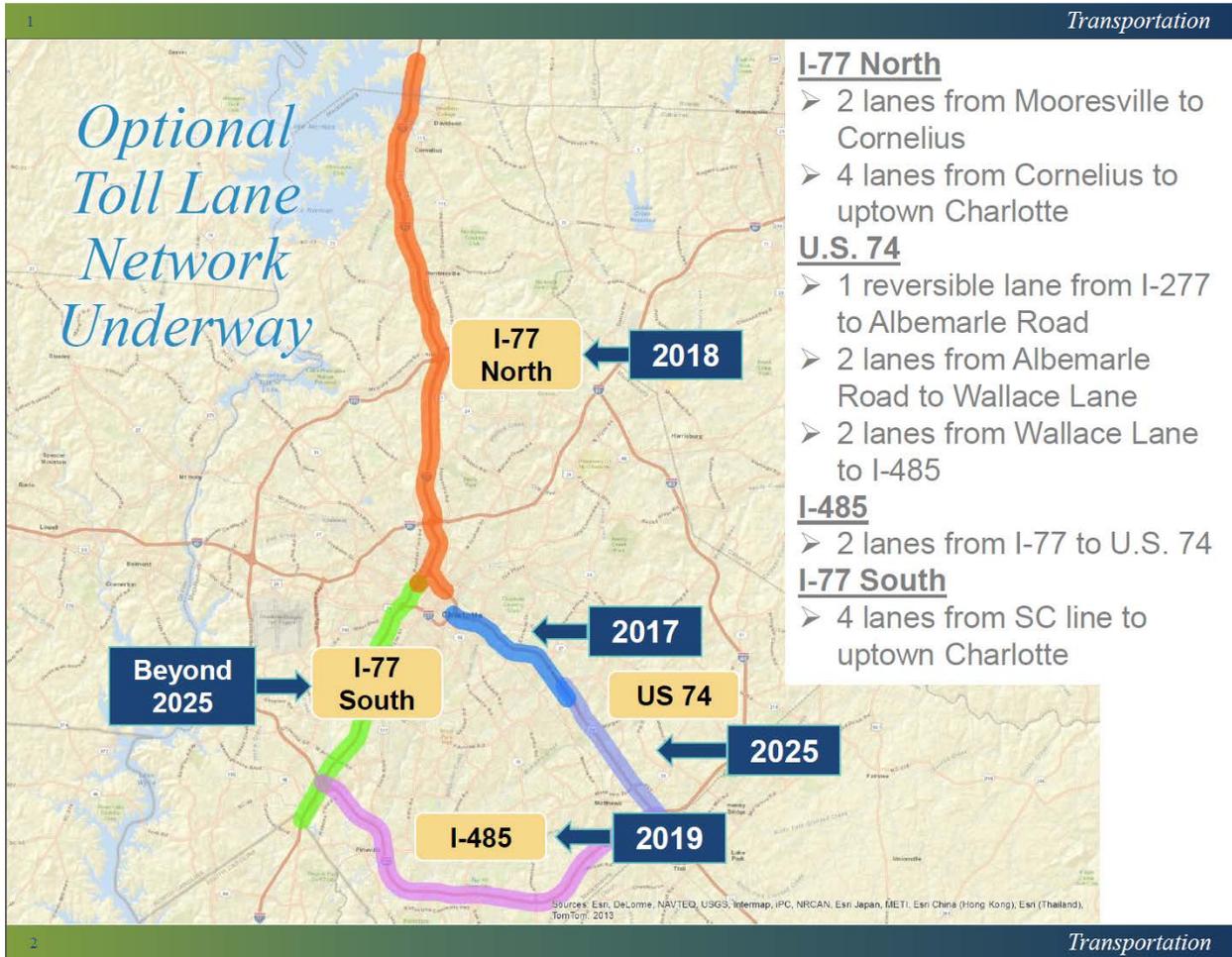
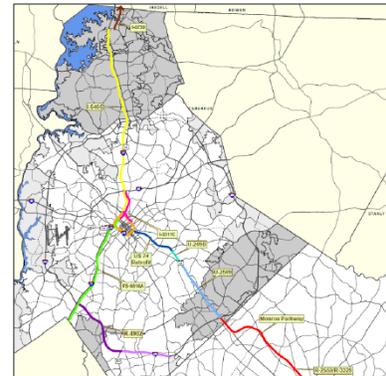
Phase I: 2007



Phase II: 2008



Phase III: 2009



Attachment A: Actions by the Metropolitan Planning Organization regarding optional toll lanes up to and including approval of the FY2016-2025 Transportation Improvement Program on August 19, 2015

2009

April 29: On a motion from Cornelius' delegate, the MPO adds a project to the Transportation Improvement Program to widen I-77 from south of exit 23 (Gilead Road) to exit 28 (Catawba Avenue) as managed lanes to be funded from sources other than TIP funds. Only Mecklenburg County votes against. Weighted vote: 35-2; delegate vote: 15-1.

2010

March 24: On a motion from Huntersville's delegate, the MPO adopts the Fast Lanes resolution to study projects for optional toll lanes on I-77, I-485, U.S. 74, and N.C. 16. Vote is unanimous. The Gaston MPO and Lake Norman RPO had already voted to support the resolution.

May 19: On a motion from Huntersville's delegate, the MPO endorses the concept of converting existing High Occupancy Vehicle lanes on I-77 to optional toll lanes and extending them to Exit 28. Vote is unanimous.

November 17: On a motion from Huntersville's delegate, the MPO supports the concept of establishing a project for optional toll lanes on I-77 in the Transportation Improvement Program. Vote is unanimous.

2011

March 16: On a motion from Huntersville's delegate, the MPO adds a project to the draft Transportation Improvement Program to convert existing High Occupancy Vehicle lanes on I-77 to optional toll lanes. Vote is unanimous.

April 27: On a motion from Charlotte's delegate, the MPO releases the draft Transportation Improvement Program for public review, including the project to convert existing High Occupancy Vehicle lanes on I-77 to optional toll lanes. Vote is unanimous.

July 20: On a motion from Monroe's delegate, the MPO adopts the FY2012-FY2018 Transportation Improvement Program, which includes the project to convert existing High Occupancy Vehicle lanes on I-77 to optional toll lanes. Vote is unanimous.

November 16: On a motion from Charlotte's delegate, the MPO amends the Transportation Improvement Program to include a study of constructing optional toll lanes on I-77 from 5th Street to north of I-85 and on I-277 from I-77 to N. College Street. Vote is unanimous.

2012

March 21: On a motion from Charlotte's delegate, the MPO releases for public comment documents related to four options for implementing optional toll lanes on I-77 and one scenario for optional toll lanes on the southern portion of I-485. Vote is unanimous.

June 20: On a motion from Charlotte's delegate, the MPO amends the Long Range Transportation Plan to include a project for optional toll lanes on the southern portion of I-485 and to include a project to implement optional toll lanes on I-77 to Catawba Avenue in Cornelius. Vote is unanimous.

Attachment A (continued)

Also on June 20, on a motion from Matthews' delegate, the MPO amends the Transportation Improvement Program to include implementing optional toll lanes on I-77 to Catawba Avenue in Cornelius. Vote is unanimous.

Also on June 20, on a motion from Huntersville's delegate, the MPO adopts an I-77 Policy Statement, which includes development of a public-private partnership for the I-77 project for optional toll lanes, and an I-485 design request, which includes preparing for optional toll lanes on the southern section of I-485. Vote is unanimous.

2013

February 20: On a motion from Charlotte's delegate, the MPO endorses a Congestion Management Process that includes goals and objectives to "consider full range of Congestion Management Strategies" and "improve the resiliency, redundancy, and reliability of the transportation network." Vote is unanimous.

Also on February 20, on a motion from Mecklenburg County's delegate, the MPO initiated a public comment period on the I-77 project for optional toll lanes. Vote is unanimous.

March 20: On a motion from Charlotte's delegate, the MPO amended the Transportation Improvement Program to study implementing optional toll lanes on Independence Boulevard from I-277 to I-485. Vote is unanimous.

May 17: On a set of motions from Charlotte's delegate, seconded by Cornelius' delegate, the MPO approved amending the Long Range Transportation Plan and the Transportation Improvement Program to include a project "to widen I-77 from Charlotte to Mooresville with [optional toll] lanes under a public/private partnership with a condition that no more than \$170 million in public dollars provide early years funding." Vote is unanimous.

September 18: On a motion from Charlotte's delegate, the MPO released for public comment the draft project list for the 2040 Metropolitan Transportation Plan including projects to widen I-77 from I-485 to I-277 with optional toll lanes, widen I-485 from I-77 to U.S. 74 with optional toll lanes, and implementing optional toll lanes on Independence Boulevard from I-277 to I-485. Vote is unanimous.

October 16: On a motion from Mecklenburg County's delegate, the MPO adopted the project list for the 2040 Metropolitan Transportation Plan, including projects to widen I-77 from I-485 to I-277 with optional toll lanes, widen I-485 from I-77 to U.S. 74 with optional toll lanes, and implementing optional toll lanes on Independence Boulevard from I-277 to I-485. Vote is unanimous.

2014

January 15: On a motion from Troutman's delegate, the MPO started a public comment period on the draft 2040 Metropolitan Transportation Plan, which includes projects to widen I-77 from I-485 to I-277 with optional toll lanes, to widen I-485 from I-77 to U.S. 74 with optional toll lanes, and to implement optional toll lanes on Independence Boulevard from I-277 to I-485. Vote is unanimous.

Also on January 15, on a motion from Mecklenburg County's delegate, the MPO approved the highway project list for scoring for the FY2016-FY2025 Transportation Improvement Program, including projects

Attachment A (continued)

to widen I-77 from I-485 to I-277 with optional toll lanes, to widen I-485 from I-77 to U.S. 74 with optional toll lanes, and to implement optional toll lanes on Independence Boulevard. Vote is unanimous.

April 16: On a motion from the Metropolitan Transit Commission's delegate, the MPO adopts the 2040 Metropolitan Transportation Plan, which includes optional toll lanes as a congestion management strategy. Vote is unanimous.

September 17: On a motion from Huntersville's delegate, the MPO calls for new projects to be evaluated for funding from the bonus allocation resulting from the I-77 project for optional toll lanes. Weighted vote is 44-9; delegate vote is 12-5. Cornelius, Iredell County, Mooresville, Statesville, and Troutman are opposed.

2015

March 18: On a set of motions from Charlotte's delegate, the MPO approves three actions related to funding projects from the bonus allocation resulting from the I-77 project for optional toll lanes:

1. Approve funding of projects in the Statewide Tier defined by the Strategic Transportation Investments law. Weighted vote is 44-11; delegate vote is 10-7. Huntersville, Iredell County, Mineral Springs, Mooresville, Statesville, Troutman, and the Metropolitan Transit Commission are opposed.
2. Approve funding of projects in the Regional and Division Tiers defined by the Strategic Transportation Investments law. Vote is unanimous.
3. Approve directions, principles, and comments related to implementing the projects funded from the bonus allocation. Vote is unanimous.

April 7: On a motion from Mecklenburg County's delegate, the MPO approves preserving the full depth paved shoulders on I-485 for future use as optional toll lanes. Weighted vote was 47-7; delegate vote is 12-2. Matthews and Mint Hill are opposed.

August 19: On a motion from Huntersville's delegate, the MPO approves the FY2016-FY2025 Transportation Improvement Program, including projects to widen I-77 from I-485 to I-277 with optional toll lanes, to widen I-485 from I-77 to U.S. 74 with optional toll lanes, and to implement optional toll lanes on Independence Boulevard. Weighted vote is 54-10; delegate vote is 18-7. Cornelius, Davidson, Fairview, Iredell County, Marvin, Mecklenburg County, and Pineville are opposed.

City of Charlotte

City Operations Greenhouse Gas Emissions Inventory: Fiscal Year 2014

Executive Summary	Page 2
Introduction & Background	Page 3
Inventory Framework	Page 4
Methodology	Page 6
Inventory Results	Page 8
Conclusion	Page 12



Executive Summary

Greenhouse gas emission inventories provide a snapshot of the environmental impact of an organization's operations. The City of Charlotte has completed three GHG emission inventories over the past nine years. This current inventory was completed for fiscal year (July – June) 2014, and will be used as the baseline inventory for the City's Environment Focus Area Plan goal to achieve a carbon neutral footprint for city operations by 2050.

The results of this inventory reveal the GHG emissions for City operations are approximately 230,000 metric tons of carbon dioxide equivalents (CO₂e). This number includes the emissions from the following sectors: buildings, streetlights and traffic signals, water delivery and wastewater facilities, vehicle and transit fleet, solid waste landfills and other process emissions. These sectors are described in more detail in the full inventory. 230,000 metric tons CO₂e is equivalent to the emissions of about 48,000 passenger cars or about 32,000 homes' annual electricity use¹.

Generally, the city's emissions have declined about eight percent since the first GHG inventory was completed in 2006. This is the result of a range of factors, including more efficient processes and technologies as well as the reduction in carbon intensity of our local energy provider.

Moving forward, a quality management plan will be developed for the City's GHG inventories, and work will begin with departments to look at carbon reduction strategies. This baseline inventory is the first step in measuring and reducing the City's greenhouse gas emissions.

¹ <http://www2.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Introduction

The City of Charlotte conducts a Greenhouse Gas (GHG) emissions inventory to better understand the environmental impact of its operations. This inventory is also a benchmarking tool for the City's Environment Focus Area Plan. The Focus Area Plan is divided into five initiatives: energy, water, waste, air and smart city, each with an associated goal. The energy goal is to achieve a carbon neutral footprint for city operations by 2050. Understanding and measuring our carbon emissions and where those emissions come from is a key step to achieving this goal.

The fiscal year 2014 (FY14) GHG emissions inventory is the third inventory completed for City operations. To begin the FY14 inventory, City staff conducted a review of the City's previously assessed city government operations' inventories. These efforts were undertaken along-side one another to develop an automated process of GHG emission data, ensuring accurate yearly reporting and target reduction goal setting. This report provides a summary review of previously assessed GHG emission inventories, a process description for the assessment of the City's FY14 GHG emissions inventory and an overview of associated results.

Local governments selecting to quantify and report GHG emissions refer to the Local Government Operation Protocol (LGOP), which provides standardized methods and guidelines tailored to city operations. The FY14 GHG inventory was completed through the ICLEI - Local Governments for Sustainability (ICLEI) Clear Path program, which is a new tool available to track GHG emissions online based on the LGOP. This software program allows for a common reporting platform for international municipalities and for accuracy and comparability for all future inventories completed by the City.

Background

The City has conducted two previous GHG inventories for city operations. Below is a brief summary of those inventories.

In 2007, the City conducted a GHG inventory for FY2006 prepared by student interns and managed by Engineering and Property Management. The inventory used the ICLEI Clean Air and Climate Protection (CACP) software, which is the predecessor to Clear Path. In 2009, CDM conducted a review of the student's FY2006 City's operations GHG inventory and updated the data and calculations to meet the standards and guidelines of the LGOP. Updates and improvements to the CACP software occurred after the 2007 student inventory, and the majority of the changes noted by CDM were associated with those updates and improvements. Additionally, CDM conducted a 2006 baseline GHG emission inventory for community-wide emissions.

In 2011, Duke University assessed the FY2009 GHG emission inventory for City operations prepared by students as part of a master project managed by the City's Energy and Sustainability Manager. This inventory was completed using spreadsheets created by the students, following the LGOP protocol. Data sets are not all available for the 2009 inventory, so this report only compares the CDM 2006 inventory and the new 2014 inventory.

Section 2: Greenhouse Gas Emission Inventory Framework

The LGOP requires local governments to go through multiple steps in order to identify the types and sources of emissions they calculate and report. The section below describes the City's process in identifying certain emissions.

Organizational Boundary

Local government's organizational structures vary widely. The LGOP framework offers two **organizational boundaries** in which to conduct GHG inventories: operational and financial. Operational control means that a local government has the full authority to introduce and implement its policies at an operation. The City of Charlotte chooses to organize under this organizational boundary, which is the recommended approach by ICLEI and the LGOP. As a result of this choice, the City reports GHG emissions for all operations that fall under operational control. A detailed list of these operations is in Table 2.

Emission Scopes

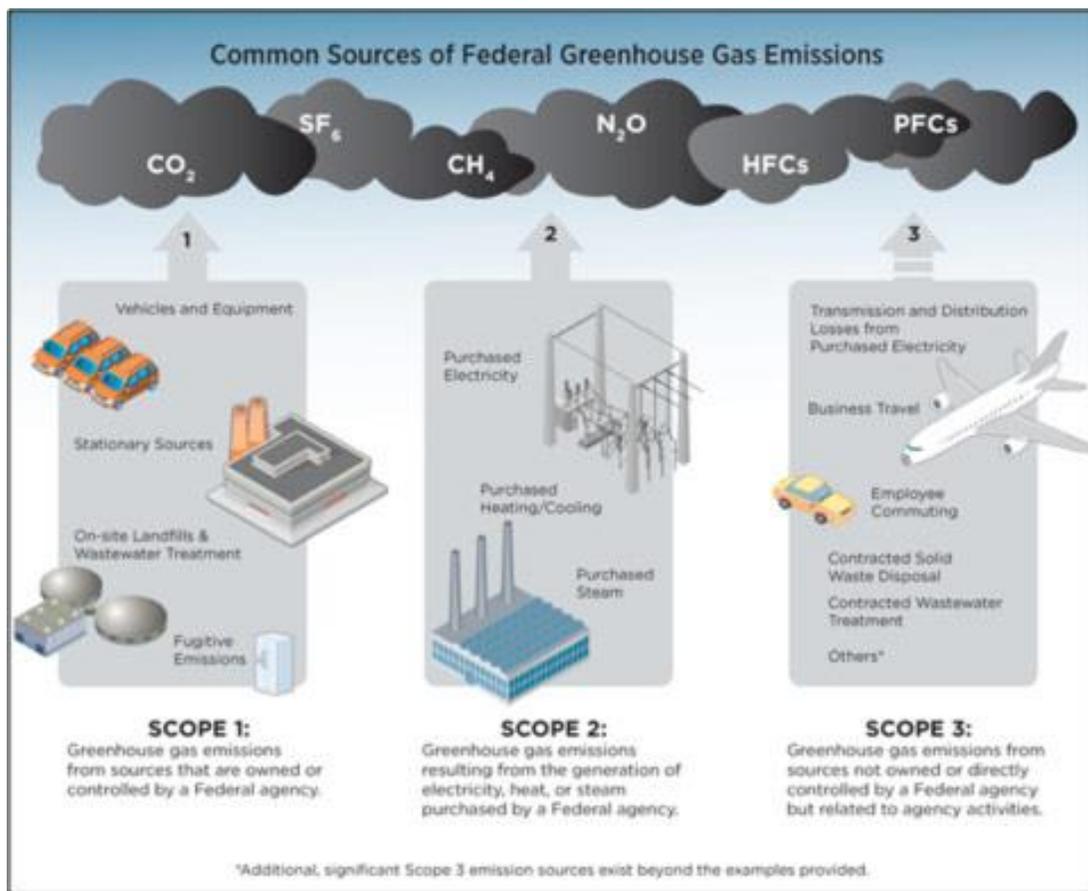
In order to manage and separately account for direct and indirect emissions, GHG emissions are also divided into three scopes (see Table 1 and Figure 1). The City of Charlotte reports on Scope 1 and 2 emissions, but is currently not reporting on Scope 3 emissions due to unavailable data.

Table 1: GHG Emission Scopes

Scopes	Definitions	Examples
Scope 1	Direct emissions from fuel consumption of stationary and mobile combustion sources and fugitive emissions from refrigerant equipment and landfill sources, directly owned and operated by the City.	Fleet Off-road equipment Fugitive emissions (refrigerants)
Scope 2	Indirect emissions from purchased electricity generated by utilities.	Electricity consumption
Scope 3	Other indirect emissions, such as those from employee commuting and outsourced activities. LGOP considers this particular category to be optional.	Employee commuting Employee business travel Solid waste generation

Figure 1. Scope and Source of GHG Emissions

(https://www1.eere.energy.gov/femp/images/greenhousegases_basics2.jpg)



Emissions associated with these scopes are also categorized by GHG sector according to LGOP (Table 2). The sectors align with operations that the City has operational control over, as described earlier. The benefit of categorizing into these sectors is to make the results of the inventory more relevant for local government policy and program development. The City gathers data on all the sectors listed in Table 2.

Table 2: Local government sectors

Local Government Sectors
Buildings & other facilities
Streetlights & traffic signals
Water delivery facilities
Airport facilities
Vehicle fleet
Transit fleet
Solid waste facilities
Wastewater facilities
Other process and fugitive emissions

Greenhouse Gases

The LGOP recommends local governments assess the six internationally-recognized GHGs. These include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). This report will refer to these GHGs in a common unit of carbon dioxide equivalents, or CO₂e. This allows the GHGs to be compared on a common basis across the inventory.

Section 3: Methodology

Below is a description of how each of the sector emissions is calculated following the LGOP.

Electricity & Natural Gas

The FY14 GHG Emission Inventory Report includes electricity emissions factors based on both localized Duke Energy Carolinas information and the U.S. Environmental Protection Agency’s (EPA) EGrid database. Duke Energy Carolinas produces historical emissions factors beginning in 1990 through 2014 (Figure 2). Reported emissions factors include CO₂ emissions, SO₂ emissions, and NO_x emissions. The FY14 inventory used the 2014 CO₂ emission factor of 0.80 lbs/kWH.

The LGOP also requires emission factors for CH₄ and N₂O, which are not provided individually by Duke Energy Carolinas. For these emission factors, the LGOP recommends the EPA EGrid database. This database contains emission factors that are developed from actual emission data from electricity generation nation-wide. The data is aggregated by electric grid-region and establishes region based electricity emission factors (Figure 3). The City’s electricity and associated emission factors were based on the SRVC EGrid Region. Appendix 1 lists the 2010 electricity emission factors used for this inventory, which are the most current factors available.

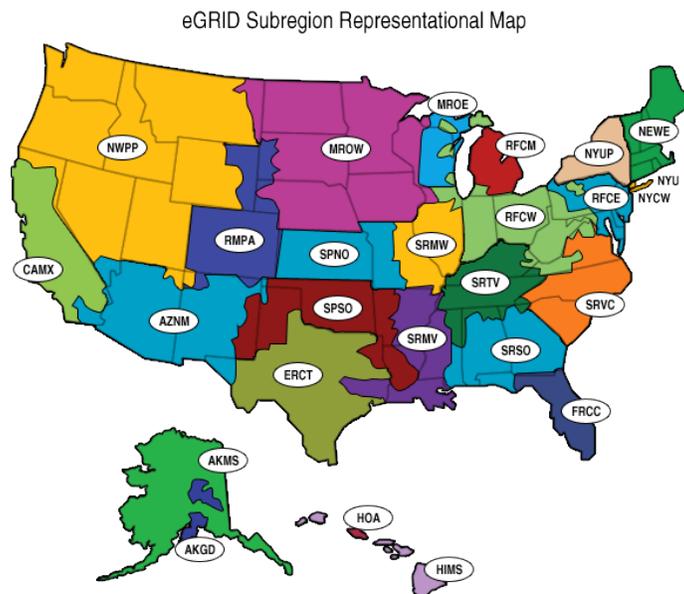
Electricity and natural gas consumption for city operations was provided by Engineering & Property Management’s EASY energy tracking software.

Calendar Year	CO ₂ Emissions	
	Calendar Year Factor	% Change
2014 **	0.80 lbs/kWH	1.3%
2013 **	0.79 lbs/kWH	-4.6%
2012	0.83 lbs/kWH	-9.7%
2011	0.92 lbs/kWH	-1.0%
2010	0.93 lbs/kWH	4.0%
2009	0.89 lbs/kWH	-16.8%
2008	1.07 lbs/kWH	1.9%
2007	1.05 lbs/kWH	6.1%
2006	0.99 lbs/kWH	0.0%
2005	0.99 lbs/kWH	1.0%
2004	0.98 lbs/kWH	2.1%
2003	0.96 lbs/kWH	-2.0%
2002	0.98 lbs/kWH	-3.0%
2001	1.01 lbs/kWH	1.0%
2000	1.00 lbs/kWH	4.2%
1999	0.96 lbs/kWH	-3.0%
1998	0.99 lbs/kWH	-12.4%
1997	1.13 lbs/kWH	8.7%
1996	1.04 lbs/kWH	25.3%
1995	0.83 lbs/kWH	-6.7%
1994	0.89 lbs/kWH	-11.0%
1993	1.00 lbs/kWH	16.3%
1992	0.86 lbs/kWH	10.3%
1991	0.78 lbs/kWH	-7.1%
1990	0.84 lbs/kWH	N/A

Figure 2: Duke Energy Carolinas Historical Emission Factors

Figure 3: EPA EGrid Regions

(http://www.epa.gov/cleanenergy/images/eGRID_subregions.gif)

**Wastewater Facilities**

There are unique emissions related to wastewater treatment as a result of anaerobic digestion, nitrification and effluent discharge. CH_4 emissions are created during anaerobic digestion. N_2O is created during the nitrification process and through the effluent discharge from wastewater treatment facilities.

Data for the City's wastewater treatment facilities was provided by Charlotte Water for FY14.

Solid Waste Facilities

The City is responsible for two closed landfills, York Road & Statesville Avenue Landfills. These landfills emit fugitive CH_4 as a result of waste decomposition that contribute to the City's GHG emissions. Data for landfills was provided by Engineering & Property Management's Environmental Services division and are considered scope 1 emissions.

The City is currently unable to track solid waste disposed of from City facilities, and so does not report on those scope 3 emissions.

Vehicle & Transit Fleet

The City included gasoline, diesel and alternative fuel consumption data for City-owned and operated vehicles from Aviation, CATS and Fleet Management. Many departments and divisions are represented by Fleet Management including Police, Fire, CDOT, Charlotte Water, Engineering & Property Management, and Solid Waste.

Emissions from the City's vehicle fleet are scope 1 emissions. The emissions from vehicle fleet were calculated using data provided by Management & Financial Services, Fleet Management and Aviation. This data included mileage, fuel consumption and quantity of passenger, light truck and heavy truck vehicles. Transit fleet data was provided by the Charlotte Area Transit System (CATS) and Aviation, and included mileage, fuel consumption and quantity of transit and paratransit buses and vanpool vans.

Emission factors (Appendix 1) for fleet are based on the ICLEI U.S. Community Protocol.

Process & Fugitive Emissions

The main contributors to the City's process & fugitive emissions sector are refrigerants from both fleet vehicles and facility air conditioning and chiller systems. The FY14 GHG inventory includes fleet vehicle refrigerant emission data from the City's general fleet vehicles as well as aviation vehicles. These emissions are considered scope 1.

Fleet Management and Aviation provided fleet vehicle refrigerant data.

Unavailable Data

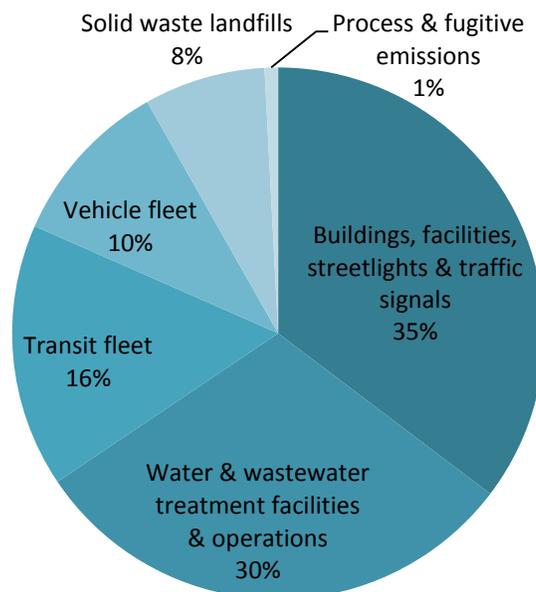
Some data sets required for scope 1, 2 and 3 emissions are not available for FY14. Plans are in place to begin tracking the items listed below for future GHG emissions inventories.

1. Off-road vehicle fuel: Data for this unavailable for FY14.
2. Facility refrigerant use: Data is unavailable for refrigerant use in our facilities for FY14.
3. Employee Commuting & Business Miles: Data for this unavailable for FY14.

Section 4: FY14 City Operations GHG Emission Inventory Results

The City of Charlotte's total GHG emissions for City operations in FY2014 is approximately 230,000 metric tons of CO₂e. Figure 3 shows the sector breakdown of these emissions.

Figure 3: FY2014 City Operations GHG Emissions



The largest contributor (35%) to the city’s emissions is attributed to the indirect emissions from electricity use in city facilities and to operate street and traffic lights. The second largest contributor (30%) to emissions is the city’s water and wastewater treatment facilities and operations. These emissions include the electricity and natural gas required to power the facilities, process nitrogen dioxide from waste water treatment plant’s effluent, the nitrification process, and emissions from the incomplete combustion of digester gas. Combined, total electricity usage and the city’s water and wastewater treatment facilities and processes make up approximately 65% of the City’s emissions. This is fairly typical across local government operations, as seen by Table 5.

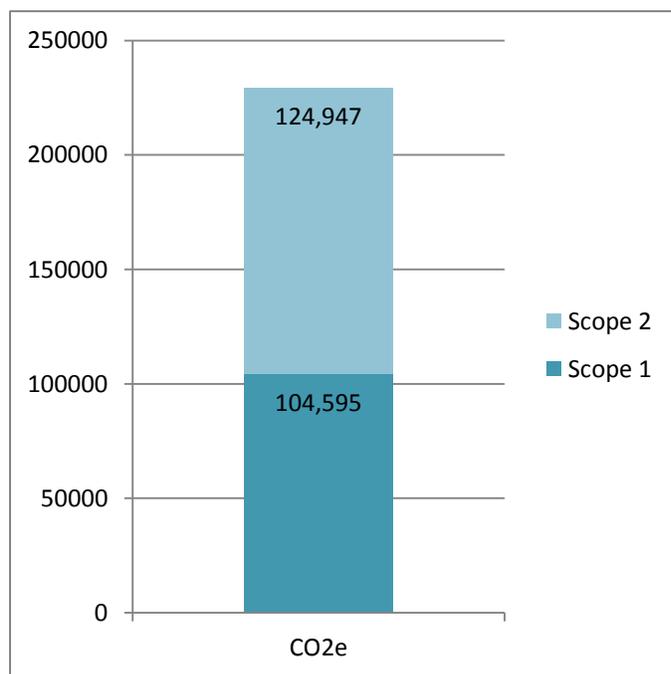
Transit and vehicle fleet account for approximately a quarter of the City’s emissions, and the city’s two closed landfills and refrigerant use account for less than ten percent of the emissions. A further breakdown of each sector is seen in Table 3.

Table 3: FY2014 Emissions by Sector

Sector	Total metric tons of CO ₂ e
Buildings, facilities, street lights & traffic signals	81,051
Water & wastewater treatment facilities	69,449
Transit fleet	36,809
Vehicle fleet	23,421
Solid waste landfills	16,925
Process & fugitive emissions	1,887
TOTAL	229,542

Figure 4 details the city’s GHG emissions by scope. Scopes help to facilitate the assessment of responsibility associated with GHG emissions. Scope 1 is direct emissions, or emissions that can be directly controlled by the City, like our fleet. Scope 2 is indirect emissions, and those emissions are the result of the City’s electricity consumption. While the City can control how much electricity we use, the City does not have direct control over how that electricity is produced.

Figure 4: FY2014 City Operations GHG Emissions by Scope



Scope 1: Direct emissions from fuel consumption of stationary and mobile combustion sources and fugitive emissions from refrigerant equipment and landfill sources, directly owned and operated by the City
Includes: Fleet, fugitive emissions

Scope 2: Indirect emissions from purchased electricity generated by utilities
Includes: Electricity consumption

Table 4 and Figure 5 provide a side-by-side comparison of the original inventory completed by CDM of the FY2006 city operation’s emissions with the FY2014 emissions. Percent changes are included for four of the sectors below in Table 4. Indirect emissions from the city’s electricity consumption in buildings, facilities, street lights and traffic lights decreased by approximately 12 percent, and emissions from the city’s water and wastewater treatment facilities and processes decreased by approximately 9 percent. In addition to the efficiency work being completed within city facilities, the carbon intensity of generated electricity continues to decline, which is also reflected in the decrease in our carbon emissions. This should continue to be a trend moving forward.

Transit fleet emissions decreased by approximately three percent, and include fuel consumption from both Charlotte Area Transit System big buses and Aviation buses. This decrease is a result of cleaner burning engines and the introduction of additional hybrid buses into the fleet. The emissions from the City’s two closed landfills decreased by approximately 21 percent between 2006 and 2014 as a result of continued waste decomposition. The City’s vehicle fleet emissions and refrigerants cannot be equally compared due to differences in the data available in 2006 versus 2014.

Table 4: Comparison of the City of Charlotte 2006 and 2014 GHG emissions

Sector	City of Charlotte FY2006 GHG Emissions (CO2e)	City of Charlotte FY2014 GHG Emissions (CO2e)	Percent Change
Buildings, Facilities, Street lights & traffic lights	92,838	81,124	-12.6%
Water & Wastewater Treatment Facilities	76,767	69,449	-9.5%
Transit Fleet (only large bus fleet)	33,468	32,549	-2.7%
Vehicle Fleet	36,381	23,421 (does not include off-road vehicles)	n/a*
Solid Waste Landfills	21,546	16,925	-21.4%
Refrigerants	605 (includes one chiller and airport vehicles)	1,887 (includes airport and general fleet vehicles)	n/a*

*Data is not comparable because of different data sets available at the time of inventory completion.

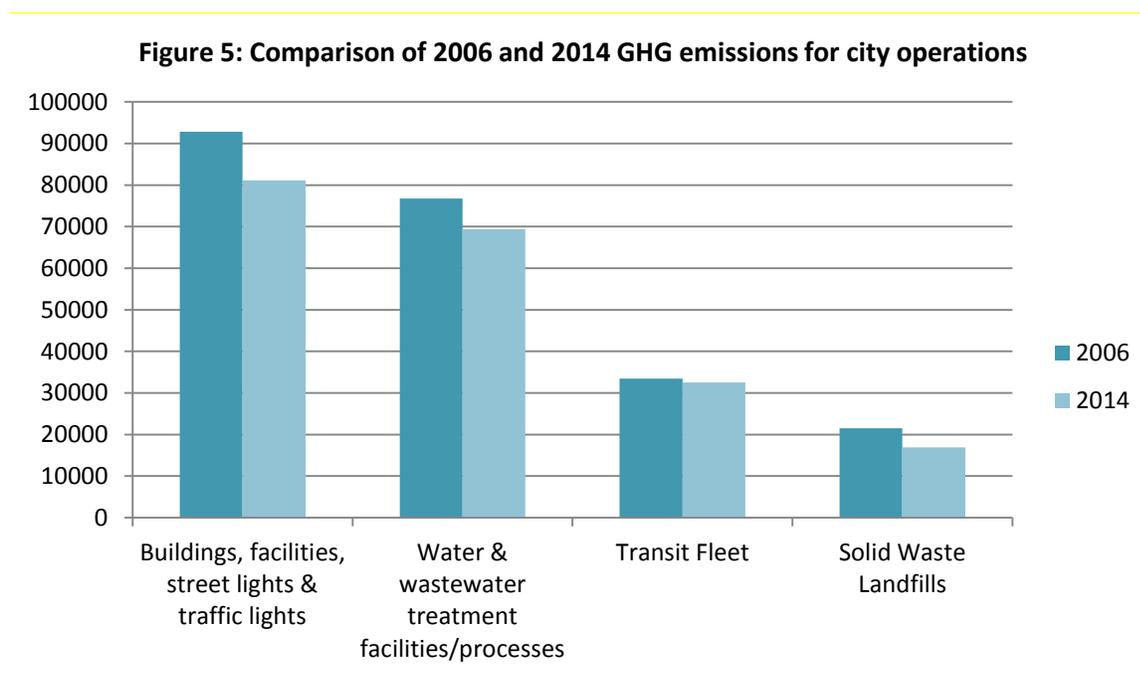


Table 5 shows how Charlotte compares to similar-sized communities across the United States. As indicated in the table, most municipalities see the bulk of their emissions as a result of electricity use in their facilities. Charlotte is within range of the other identified communities' emissions related to buildings & facilities, vehicles, waste and process/fugitive emissions. And while many factors vary from community to community that impact emissions, this table provides a quick, visual benchmark to show Charlotte's emissions relative to its peer cities. It is also likely that Seattle and San Francisco have seen a decrease in emissions from buildings and electric utilities as renewable energy portfolio requirements have grown since these inventories were produced.

Table 5: Comparison of Municipal Emissions in U.S. Cities

Sector	Charlotte, NC (2014) CO ₂ e	Seattle, WA (2010) CO ₂ e*	San Francisco, CA (2008) CO ₂ e**
Buildings & electric utility	81,124	210,100 (includes generation)	113,273 (includes generation)
Vehicles	23,421	23,400	74,723
Waste	16,925	12,900	n/a
Process/Fugitive	1,887	n/a	1,138
Employee commuting & business air travel	n/a	9,160	n/a

*Seattle data can be found at: <http://www.seattle.gov/environment/climate-change/seattles-greenhouse-gas-inventories>

** San Francisco data can be found at: <http://www.sfenvironment.org/climate-change/city-government-climate-action>

Conclusion

Charlotte is a growing city. That growth impacts the emissions of its operations, as a result of increased services, expanded infrastructure, new facilities and more. However, over the past eight years, the City has also introduced process improvements, energy efficiency programs, educational programs and other advances that have helped us control our emissions as we grow. The City also benefits from the reduction in carbon intensity of the local electricity production in the area.

As we look towards our 2050 goal of carbon neutrality, a renewed focus on reversing GHG emissions is required. Some of the key next steps as a result of this report are:

- a. Develop methods for collecting currently unavailable data sets
- b. Develop Quality Management Plan for GHG emissions inventories
- c. Work with departments to benchmark and set target reduction goals
- d. Work with departments to identify GHG emissions reduction strategies

Becoming a carbon neutral City government operation will take time, resources and resolve. This report stands as a first step in measuring our carbon footprint and beginning to make progress in reducing it to zero.

APPENDIX A: Emission Factor Sets

Electricity Emission Factors for CH4 & N2O

SOURCE:

EPA eGrid Ninth edition with year 2010 data
 SRVC Region Electric Emission Factors

Emission Type	2010 Emission Factors
CH ₄	21.69 lbs/GWh
N ₂ O	17.64 lbs/GWh

Transportation Fuel Emission Factors & Fuel Economy

SOURCE:

ICLEI U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions

Type of Input	Input	Year	Location of Input
Gas Passenger Vehicle Fuel Economy (MPG)	22.63*	2009	2012 U.S. Community Protocol (Appendix D), page 75
Gas Passenger Vehicle g CH ₄ /mi	0.021	2009	2012 U.S. Community Protocol (Appendix D), page 74
Gas Passenger Vehicle g N ₂ O/mi	0.020	2009	2012 U.S. Community Protocol (Appendix D), page 74
Gas Light Truck Fuel Economy (MPG)	19.14*	2009	2012 U.S. Community Protocol (Appendix D), page 75
Gas Light Truck g CH ₄ /mi	0.025	2009	2012 U.S. Community Protocol (Appendix D), page 74
Gas Light Truck g N ₂ O/mi	0.029	2009	2012 U.S. Community Protocol (Appendix D), page 74
Gas Heavy Truck Fuel Economy	5.36	All	2012 U.S. Community Protocol (Appendix D), page 76
Gas Heavy Truck g CH ₄ /mi	0.0333	All	2012 U.S. Community Protocol (Appendix D), page 76
Gas Heavy Truck g N ₂ O/mi	0.0134	All	U.S. Community Protocol (Appendix D) & 2015 Climate Registry Default Emission Factors (PDF), page 37
Diesel Passenger Vehicle Fuel Economy (MPG)	24.7**	2009	2012 U.S. Community Protocol (Appendix D), page 75
Diesel Passenger Vehicle g CH ₄ /mi	0.0005	All	2012 U.S. Community Protocol (Appendix D), page 74
Diesel Passenger Vehicle g N ₂ O/mi	0.001	All	2012 U.S. Community Protocol (Appendix D), page 74
Diesel Light Truck Fuel Economy	15.66**	2009	2012 U.S. Community Protocol (Appendix D), page 75
Diesel Light Truck g CH ₄ /mi	0.001	All	2012 U.S. Community Protocol (Appendix

			D), page 74
Diesel Light Truck g N2O/mi	0.0015	All	2012 U.S. Community Protocol (Appendix D), page 74
Diesel Heavy Truck Fuel Economy	6.06	All	2012 U.S. Community Protocol (Appendix D), page 76
Diesel Heavy Truck g CH4/mi	0.0051	All	2012 U.S. Community Protocol (Appendix D), page 76
Diesel Heavy Truck g N2O/mi	0.0048	All	2012 U.S. Community Protocol (Appendix D), page 76
Diesel Transit Bus Fuel Economy	6.06	All	2012 U.S. Community Protocol (Appendix D), page 76 (used for Aviation buses)
Diesel Transit Bus g CH4/mi	0.0051	All	2012 U.S. Community Protocol (Appendix D), page 76 (used for Aviation buses)
Diesel Transit Bus g N2O/mi	0.0048	All	2012 U.S. Community Protocol (Appendix D), page 76 (used for Aviation buses)
CATS Diesel Transit Bus CO2 emissions FY09 and earlier	10.21	2009	Calculated using default factor from LGOP and yearly percent change in CO2 emissions from Cummins ISC/ISL bus emission data.
CATS Hybrid Diesel Transit Bus FY09 and earlier	8.28	2009	Calculated using default factor from LGOP and yearly percent change in CO2 emissions from Cummins ISC/ISL bus emission data.
CATS Diesel Transit Bus FY11 and FY12	9.59	2011/ 2012	Calculated using default factor from LGOP and yearly percent change in CO2 emissions from Cummins ISC/ISL bus emission data.
CATS Hybrid Diesel Transit Bus FY11 and FY12	7.788	2011/ 2012	Calculated using default factor from LGOP and yearly percent change in CO2 emissions from Cummins ISC/ISL bus emission data.
CATS Diesel Transit Bus FY13 and Fy14	9.23	2013/ 2014	Calculated using default factor from LGOP and yearly percent change in CO2 emissions from Cummins ISC/ISL bus emission data.
CATS Hybrid Diesel Transit Bus FY13 and FY14	7.49	2013/ 2014	Calculated using default factor from LGOP and yearly percent change in CO2 emissions from Cummins ISC/ISL bus emission data.

*Gas passenger vehicle fuel economy & diesel passenger vehicle fuel economy were derived from 2006 values using a calculated factor of 0.01548539237 resulting in a deviation of +/- 0.3685523384 from the average of 23.8

** Gas light truck vehicle fuel economy & diesel light truck vehicle fuel economy were derived from 2006 values using a calculated factor of 0.10018583118 resulting in a deviation of +/- 1.74323346253 from the average of 17.4



CHARLOTTE[™]

**City Council
Follow-Up Report**

January 6, 2016

January 4, 2016 – City Council Workshop

Citizens' Forum – Tarp on Roof at 4238 Donnybrook Place (Vincent Frisina)

Staff Resources: Alban Burney, City Manager's Office, 704-336-4947, aburney@charlottenc.gov

Vincent Frisina spoke to Council at the January 4 Citizens' Forum regarding concerns he had with the excessive amount of time that tarp has been on the roof of a home located at 4238 Donnybrook Place. Specifically, Mr. Frisina wanted to know if there was a City policy on the length of time a tarp can be on the roof.

In a letter dated December 15, 2014, the City communicated to Mr. Frisina that (1) the property has been foreclosed and (2) the owner is deceased and his heirs were unable to obtain the property from the bank. After speaking with staff in Neighborhood and Business Services, the City has learned that the property continues to be in the foreclosure process. Currently, there is an administrative hearing set for February 5, 2016. Based on the estimated repairs, this property will fall into the demolition category.