

LTD's Greenhouse Gas Inventory Results FY19-21

Board of Directors Regular Meeting - February 16, 2022





MISSION

CONNECTING OUR COMMUNITY.

VISION

IN ALL THAT WE DO, WE ARE COMMITTED TO
CREATING A MORE CONNECTED, SUSTAINABLE, AND
EQUITABLE COMMUNITY.

VALUES

RESPECT, INTEGRITY, INNOVATION, EQUITY, SAFETY,
AND COLLABORATION.



AGENDA



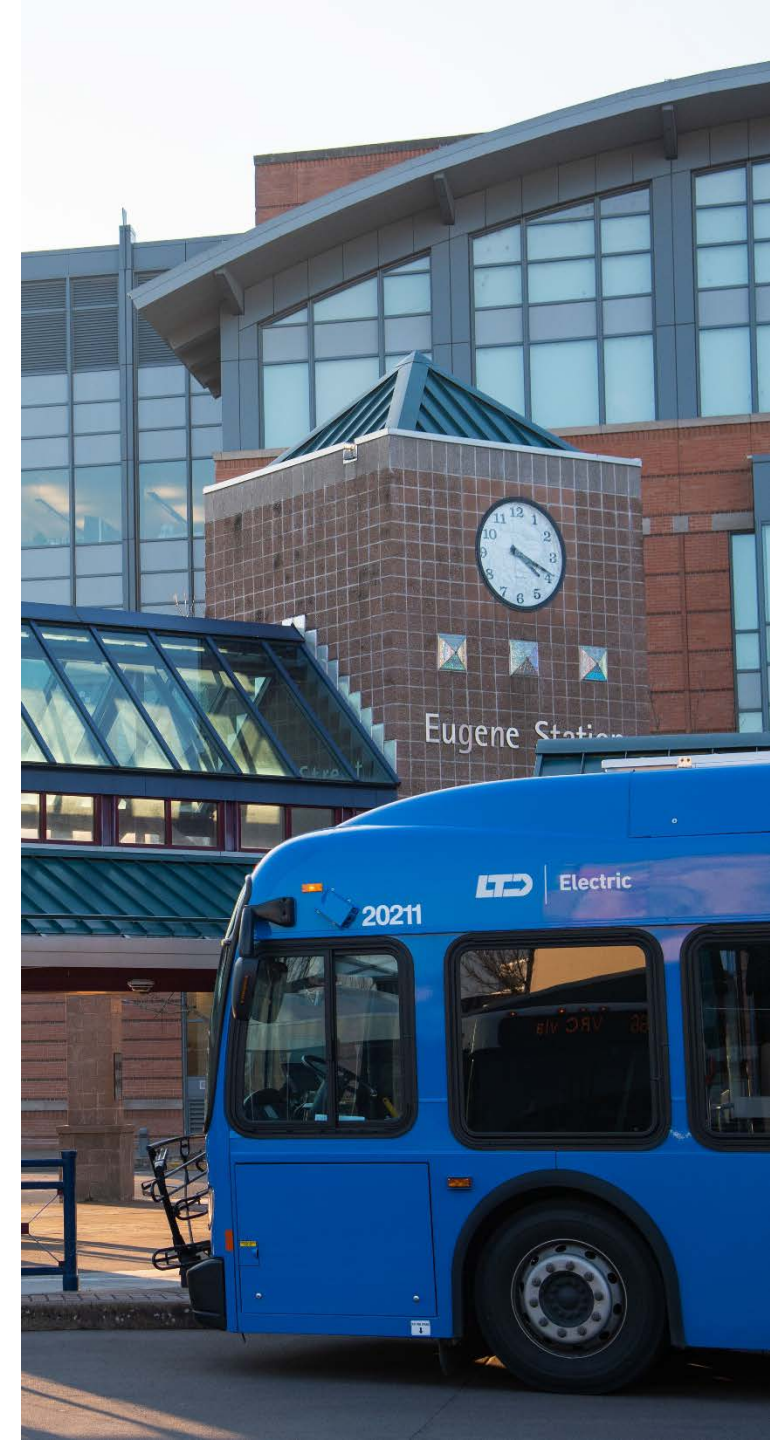
GHG Inventory Results FY 19-21 & trends



Climate Action Policy Progress



Q&A?





GHG Impacts and Benefits from Transit

Net Greenhouse Gas Impacts of Transit
Emissions Produced – Emissions Displaced

Emissions Produced by Transit

Transit Operations

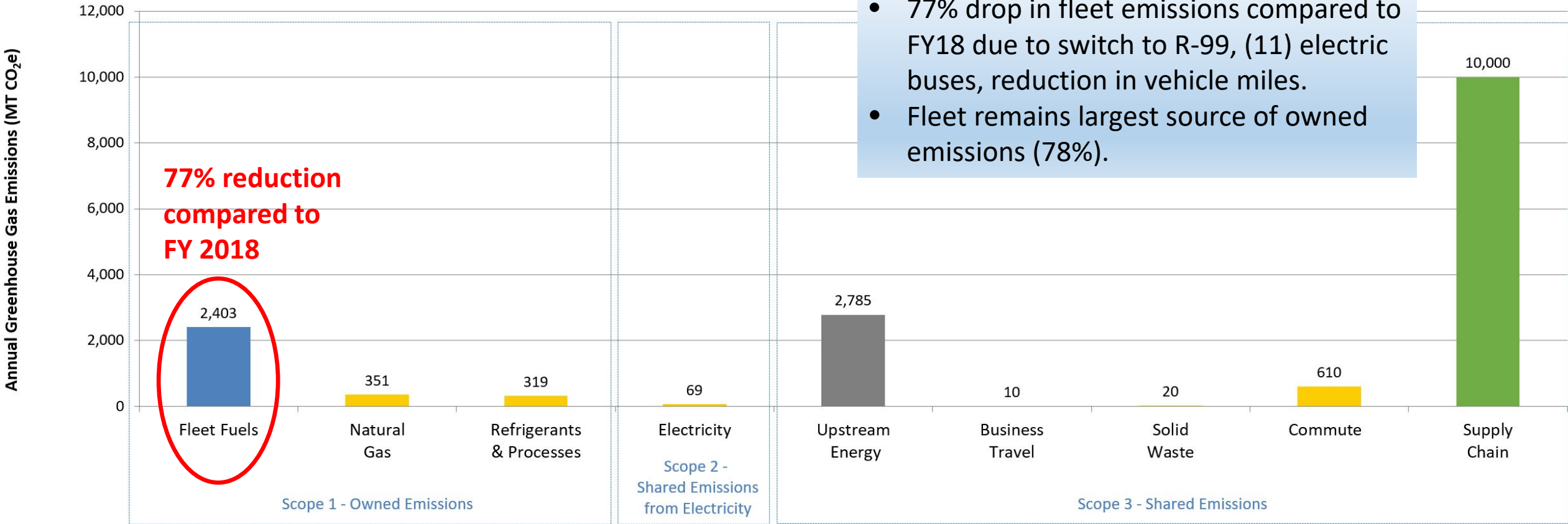
- Fleet vehicles energy use
- Buildings & stations energy
- Refrigerants for vehicle AC
- All other emissions sources
 - Business travel
 - Employee commute
 - Solid waste
 - Purchases



GHG Impacts from Transit, FY 2021

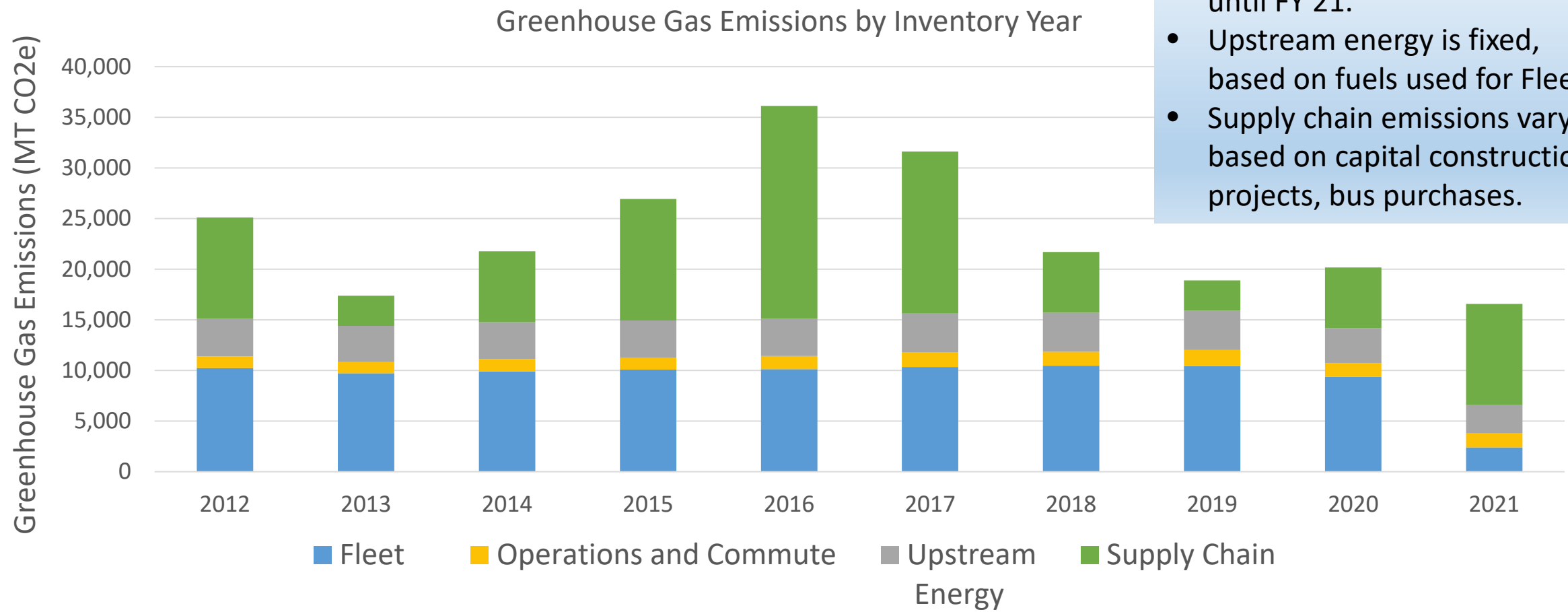
KEY LESSONS:

- 77% drop in fleet emissions compared to FY18 due to switch to R-99, (11) electric buses, reduction in vehicle miles.
- Fleet remains largest source of owned emissions (78%).





GHG Impacts from Transit, FY 2012-2021

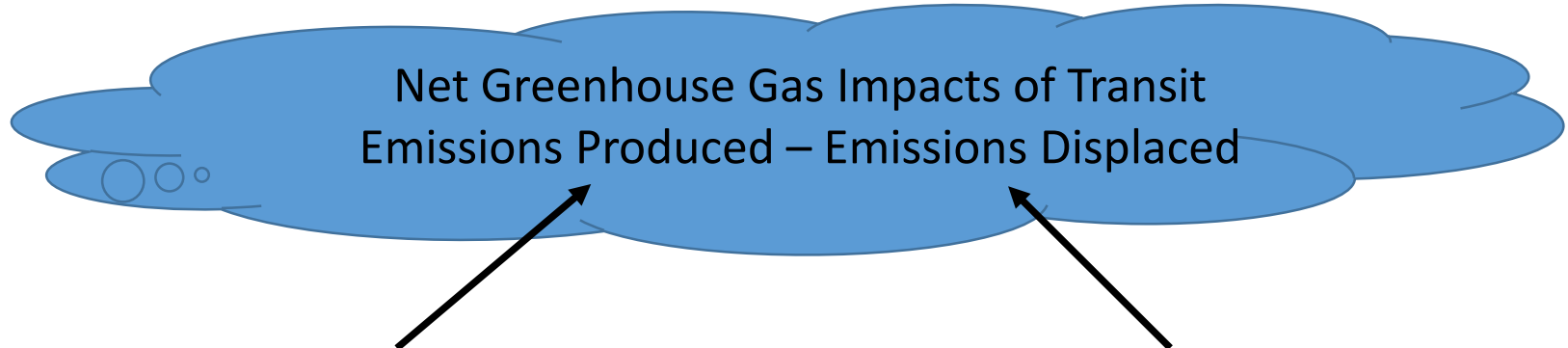


KEY LESSONS:

- Fleet emissions fairly stable until FY 21.
- Upstream energy is fixed, based on fuels used for Fleet.
- Supply chain emissions vary based on capital construction projects, bus purchases.



GHG Impacts and Benefits from Transit



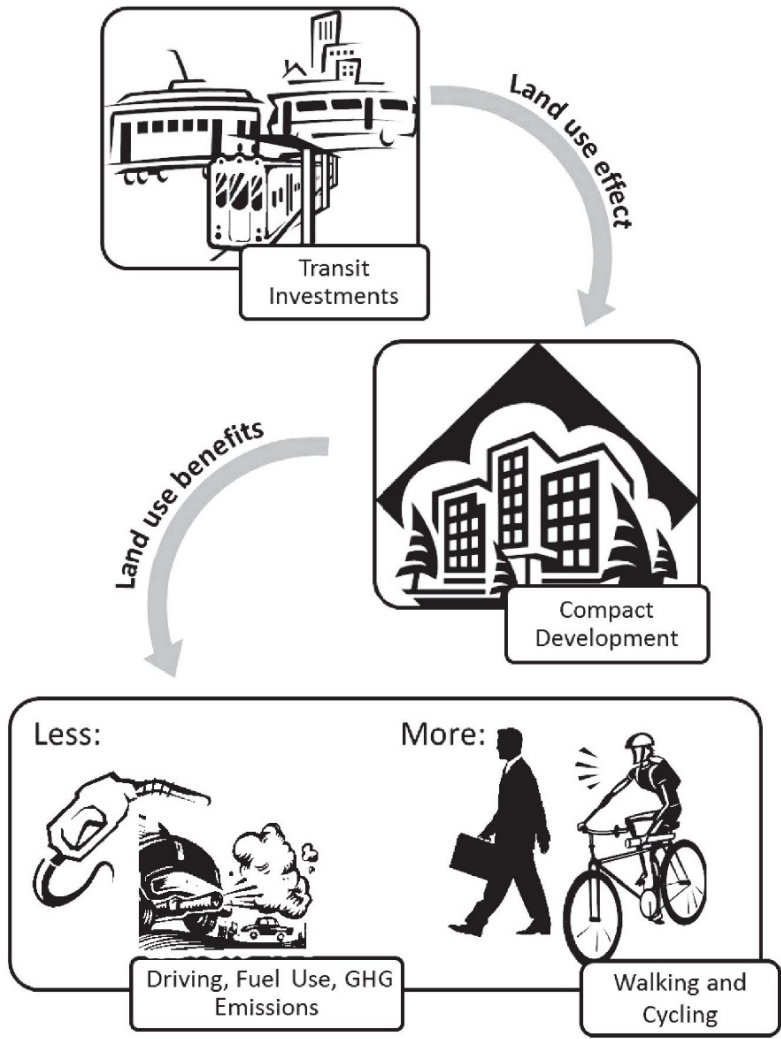
Emissions Produced by Transit

Transit Operations

- Fleet vehicles energy use
- Buildings & stations energy
- Refrigerants for vehicle AC
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Emissions Benefits of Transit

| | |
|---|---|
| <p><u>Ridership Benefit</u></p> <ul style="list-style-type: none">• Reduced VMT from taking the bus instead of a private auto | <p><u>Land Use Benefit</u></p> <ul style="list-style-type: none">• Compact development around transit facilities reduces VMT for all• Shorter trips makes biking/walking more attractive |
|---|---|

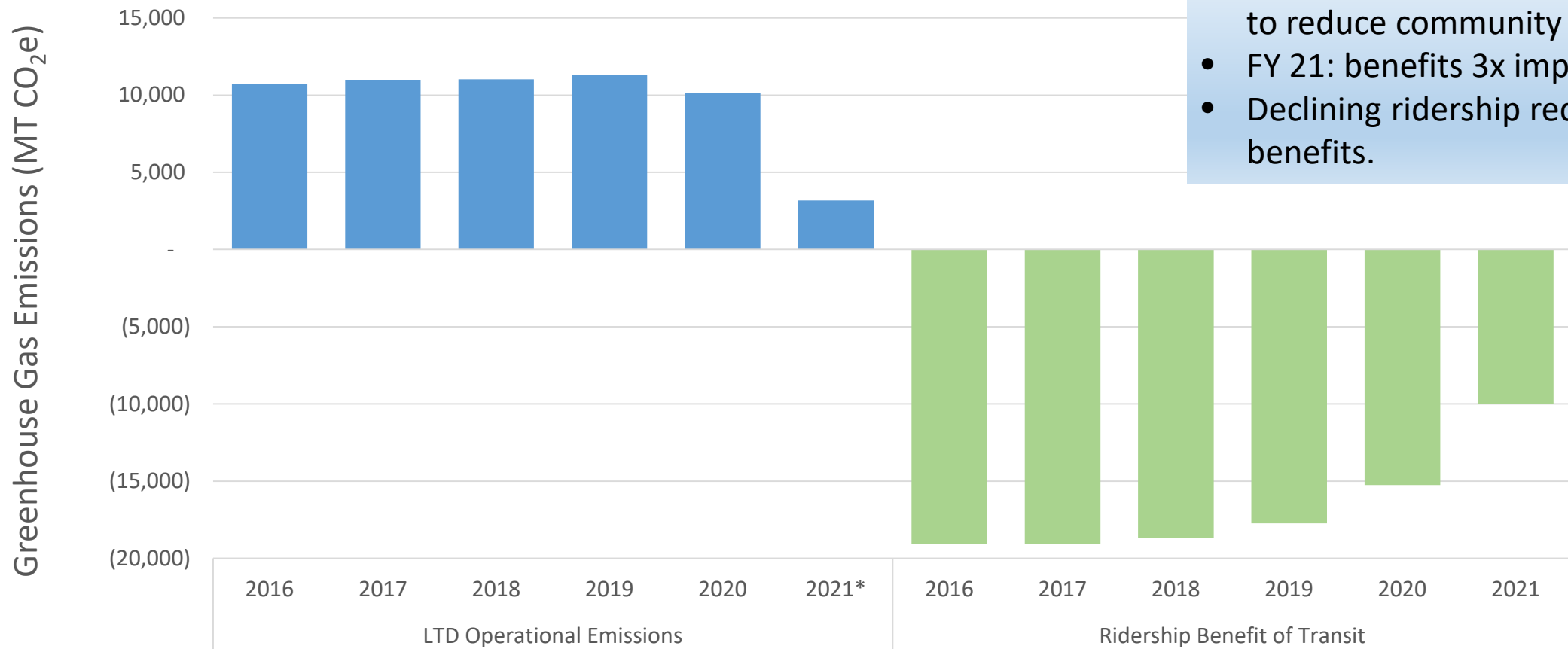


Graphic Adapted from *Quantifying Greenhouse Gas Emissions from Transit*, APTA, 2009.

GHG Benefits from Transit Ridership FY 16-21



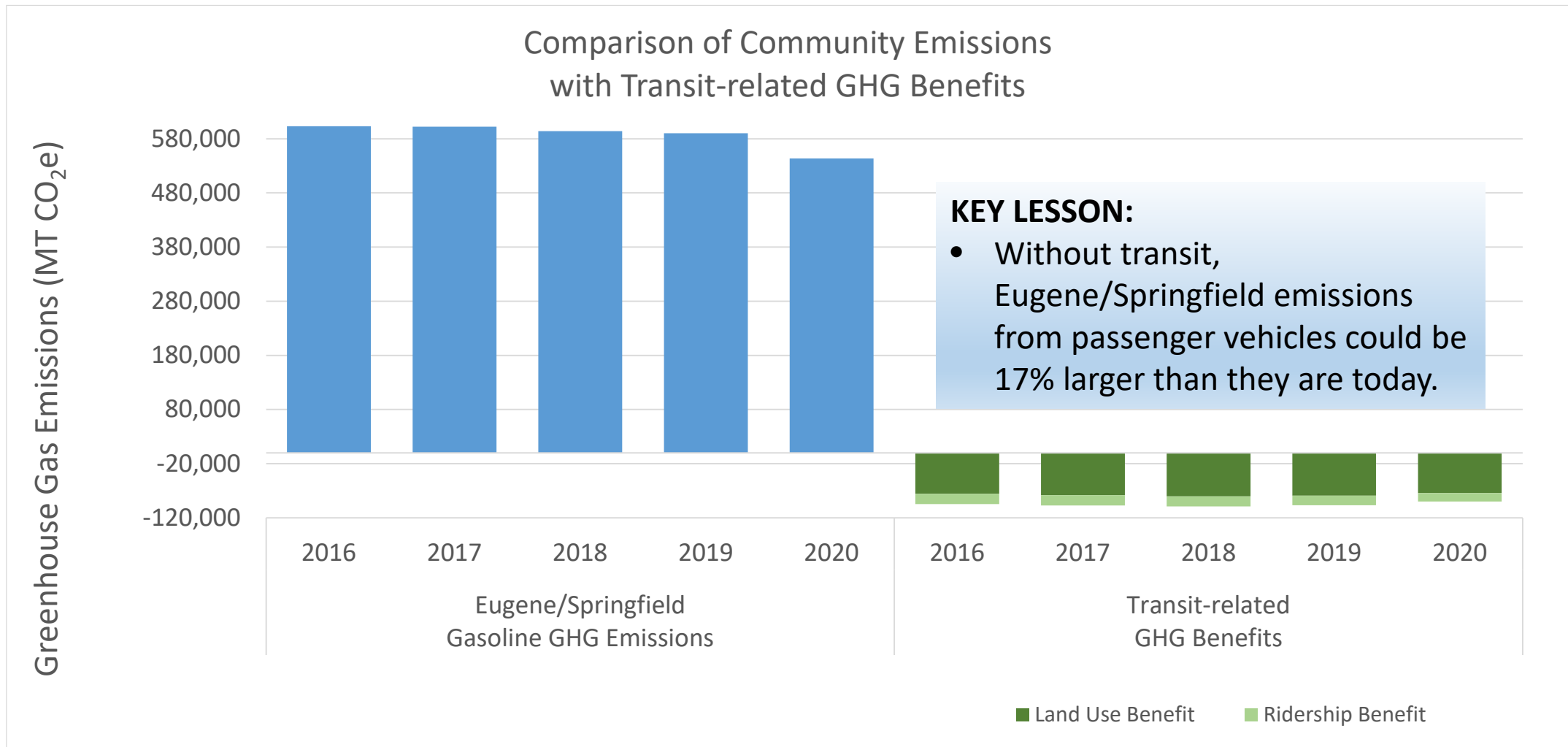
Comparison of LTD Operational Emissions
with Ridership GHG Benefits



KEY LESSONS:

- Transit is an important strategy to reduce community emissions.
- FY 21: benefits 3x impacts.
- Declining ridership reduces benefits.

GHG Benefits from Transit Ridership + Land Use



Climate Action Policy, 2020



“LTD recognizes the urgency in addressing climate change and is committed to reducing community greenhouse gas emissions by taking steps to **maximize public transit ridership and support low-carbon active transportation modes**. LTD is also committed to reducing the greenhouse gas emissions and consumption of fossil fuels from its fleet of vehicles as quickly as possible in a financially and socially responsible manner. LTD is committed to eliminating the use of fossil fuels in its bus fleet by 2035 and will develop plans to achieve that goal.”



Climate Action Policy, 2020



Goal 1: 25 electric buses within 3 years

Goal 2:

- By 2035: 100% fleet turnover, phase out fossil fuels
- By 2030: 75% GHG reduction from “Fleet”

Goal 3:

- Research emerging technology and fuels
- Develop joint community GHG emission reduction goals with partner jurisdictions
- Review progress & goals annually





BOTTOM LINE



LTD is on track to not only meet, but exceed the Climate Action Policy and Fleet Procurement Goals passed by the Board of Directors.

Progress Towards Climate Action Policy

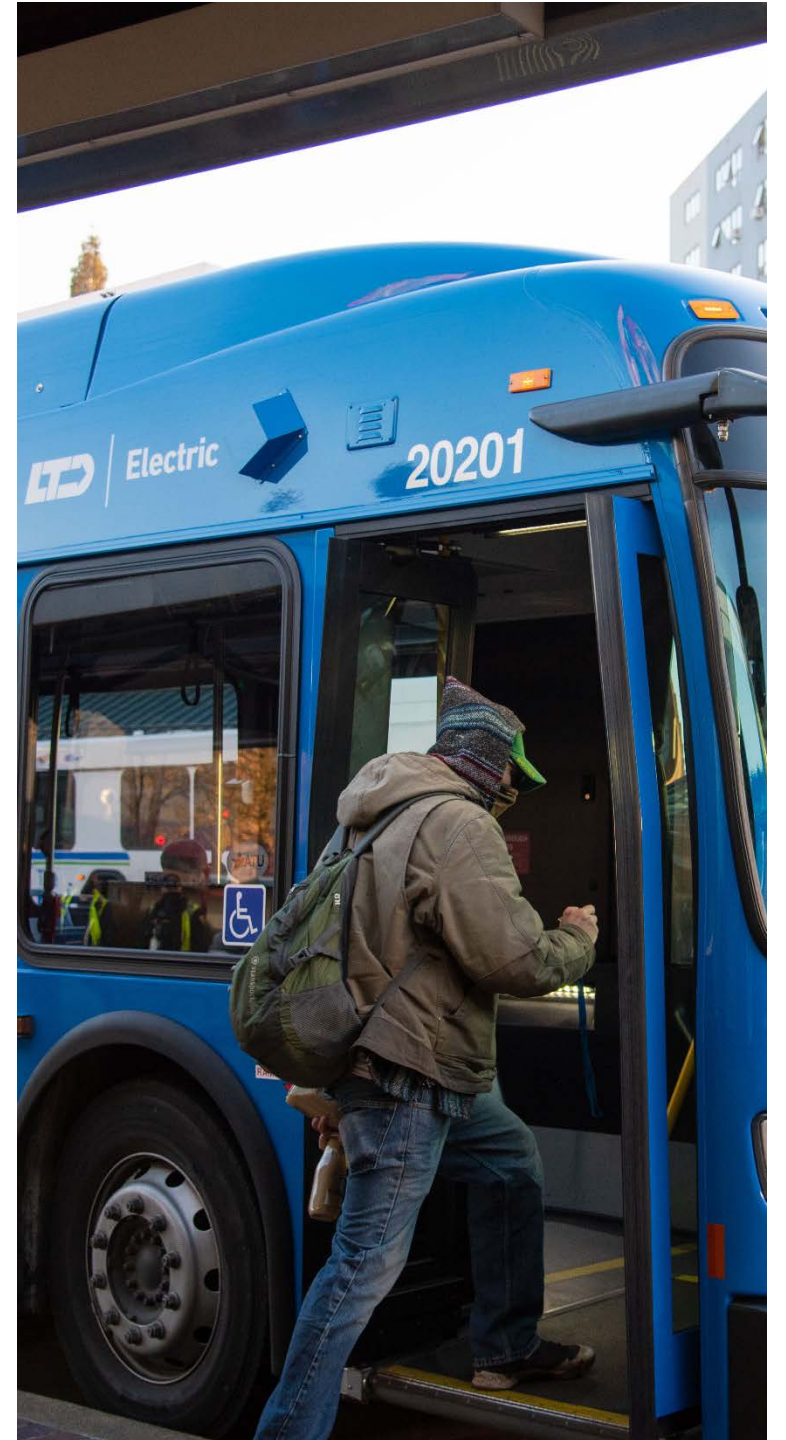


| GOAL | ON TRACK? | NOTES |
|---|-----------|---|
| CAP Goal 1: 25 BEB contracted by 2023 SBP Interim Goal: Fleet 25% BEB by 2024 | | On track to exceed this goal: 30 buses by FY2023 |
| CAP Goal 2a: Eliminate fleet fossil fuels by 2035 SBP Interim Goal: 70% renewable fuel by 2024 | | On track: 64% Renewable fleet fuel in FY2021 due to switch to R-99 in Sept 2020 |
| CAP Goal 2b: 75% Fleet GHG reduction by 2030 SBP Interim Goal: 70% GHG reduction by 2024 | | Achieved: 77% Fleet GHG reduction in FY2021 due to R-99 and (11) electric bus deployment |
| CAP: Goal 3a: Deliberate exploration of fuels SBP Tactic: Fleet Procurement Plan Project | | On track: Fleet Procurement Plan Phase 1 for bus and paratransit fleets complete |
| CAP Goal 3b: Joint community GHG reduction goals with partners | | On track: Goals in CoE CAP2.0 & Lane County CAP |
| CAP Goal 3c: Review progress annually SBP Tactic: Update GHG inventory biannually | | On track: This presentation |

Goal 1: 25 BEBs by 2023



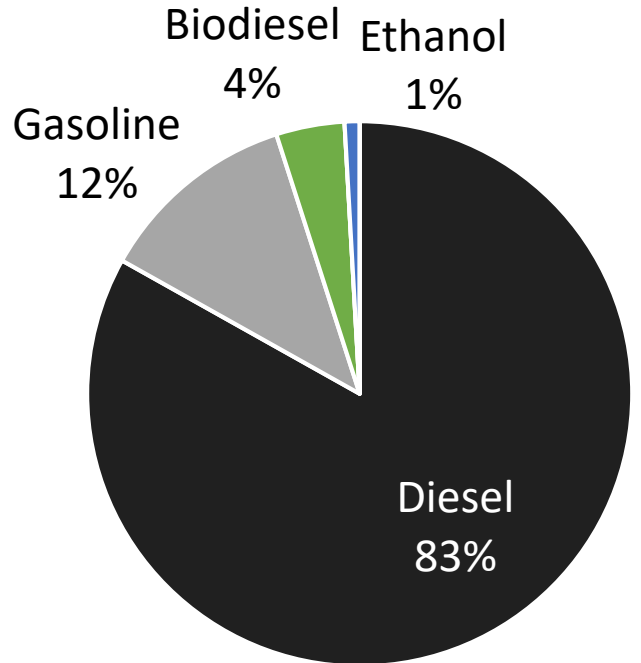
- Exceeding goal: 30 BEBs by 2023
- (11) BEBs in service since June 2021
- (19) BEBs purchased



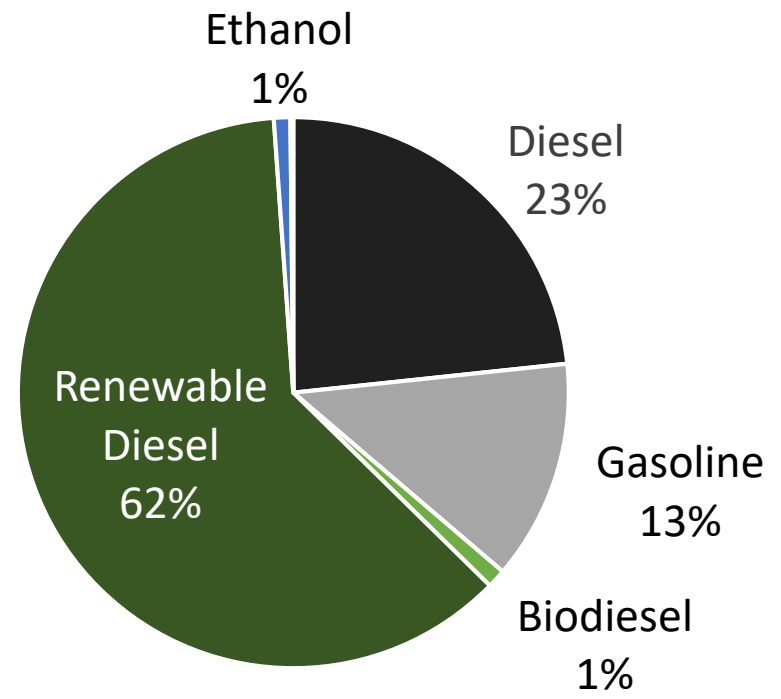
Goal 2a: Phase out Fossil Fuel Use by 2035



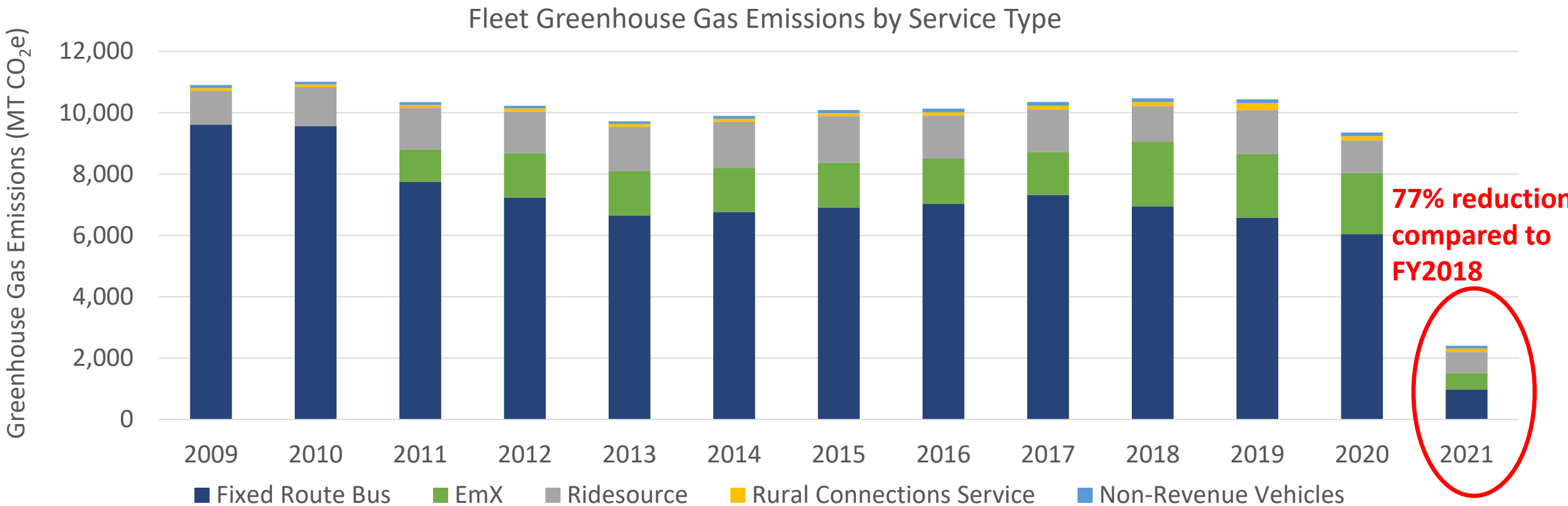
Percent Renewable Fuel = 5%
FY 2018 Baseline



Percent Renewable Fuel = 64%
FY 2021



Goal 2b: 75% Reduction in Fleet GHGs by 2030



Q&A? Thank you!



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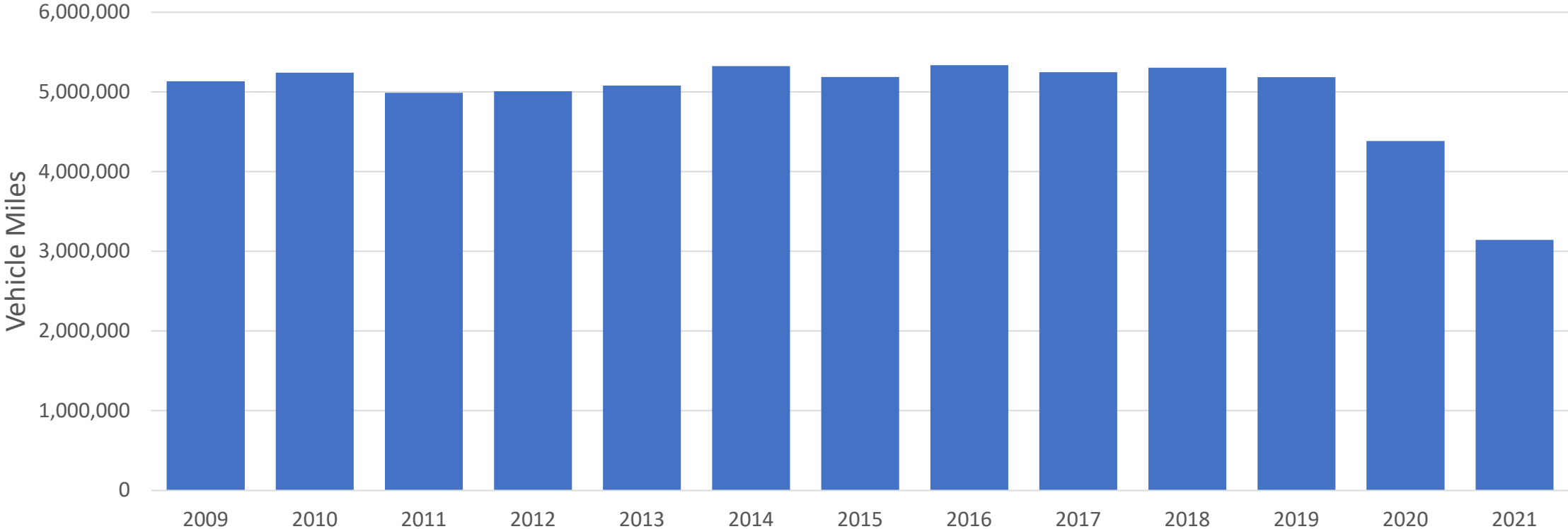
APPENDIX OF ADDITIONAL RESULTS



LTD Vehicle Miles Travelled, All Modes FY 09-21



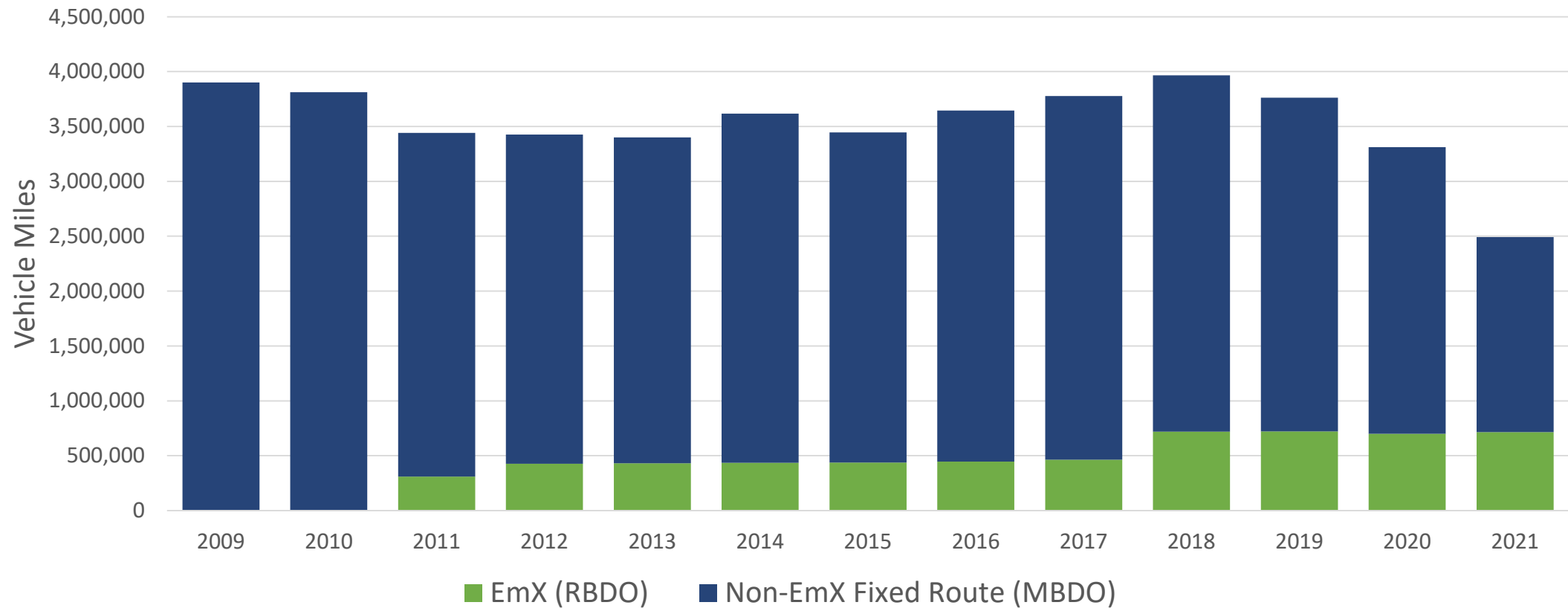
Annual LTD Vehicle Miles
FY 2009-2021, All Modes



LTD Vehicle Miles, Fixed Route FY 09-21



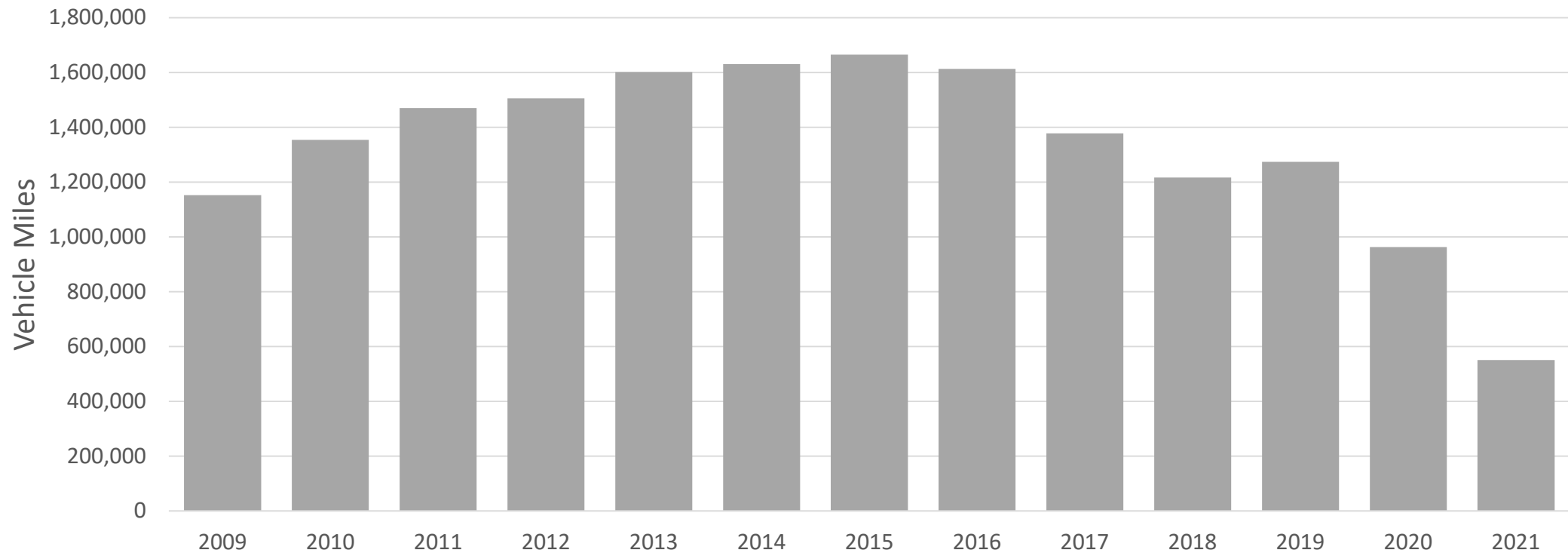
Annual LTD Vehicle Miles
FY 2009-2021, Fixed Route



LTD Vehicle Miles, RideSource FY 09-21



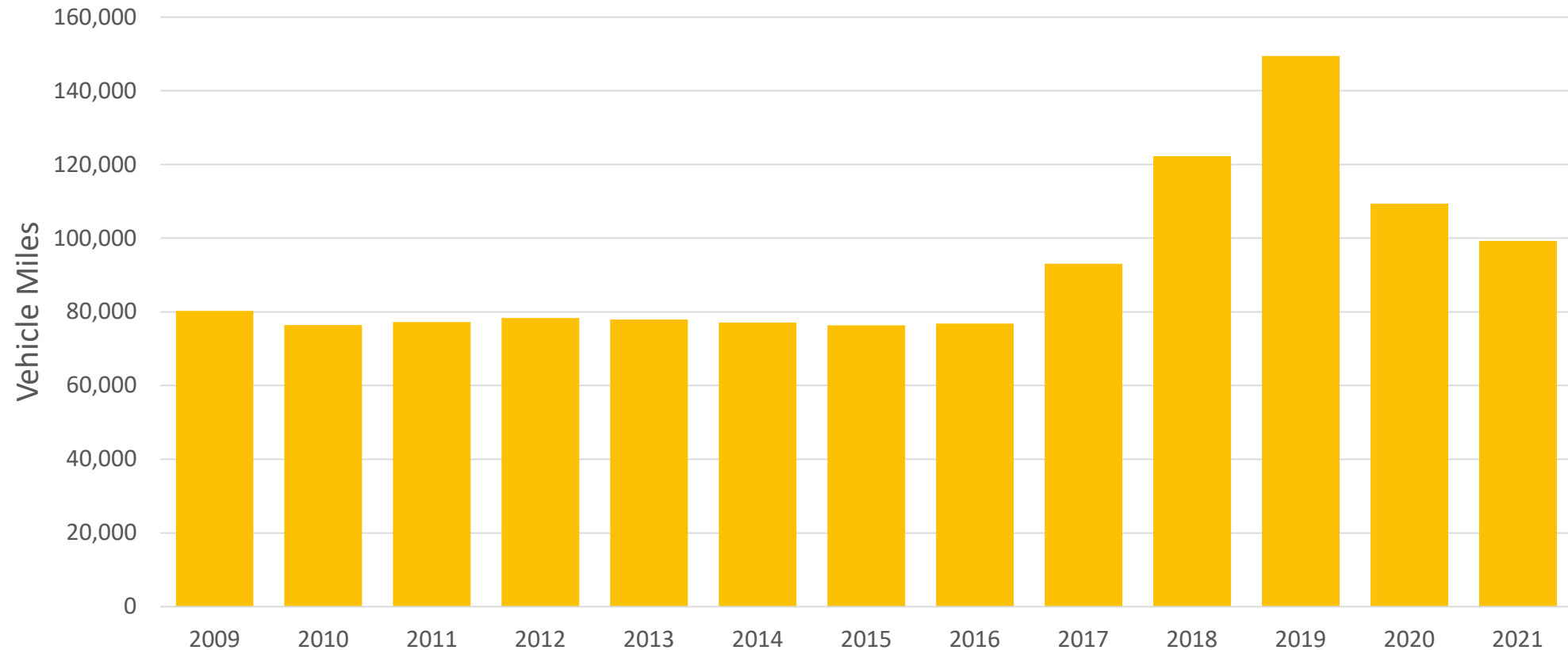
Annual LTD Vehicle Miles
Fiscal Year 2009-2021, RideSource



LTD Vehicle Miles, Rural Connections FY 09-21



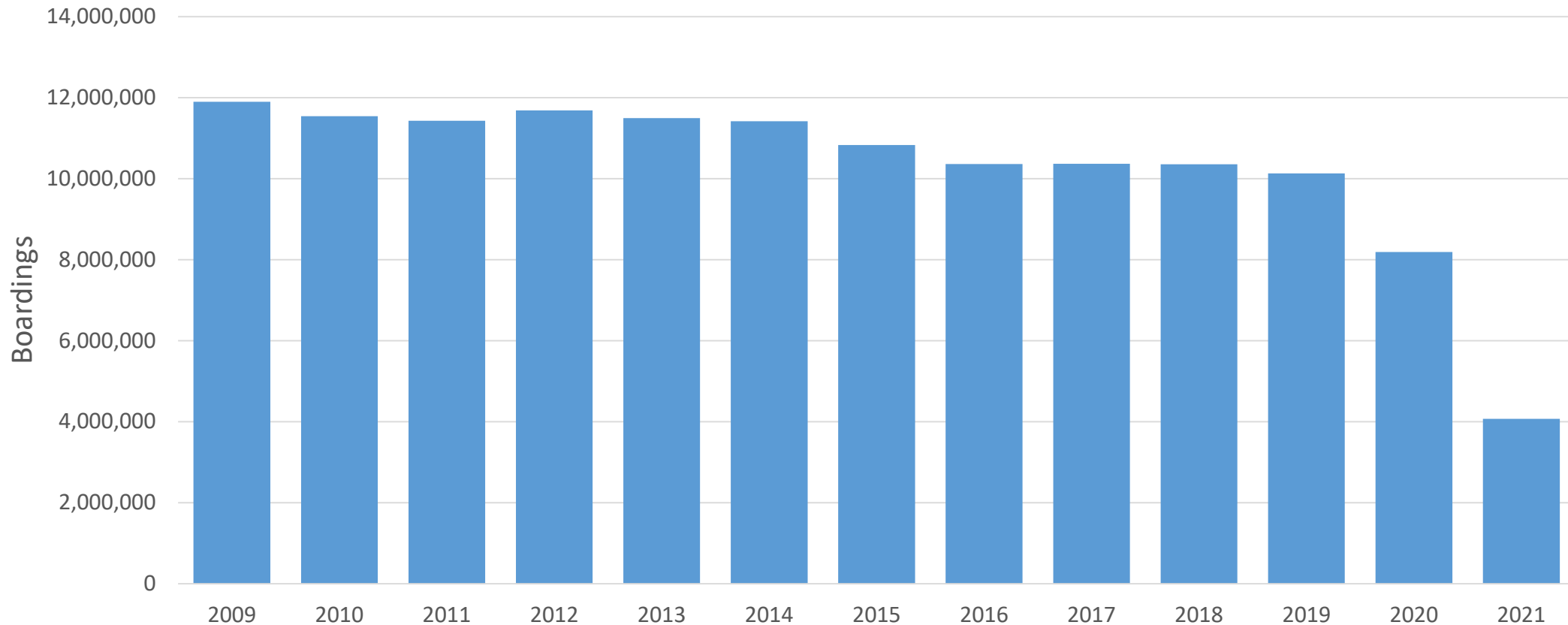
Annual LTD Vehicle Miles
Fiscal Year 2009-2021, Rural Connection Services



LTD Boardings, All Modes FY 09-21



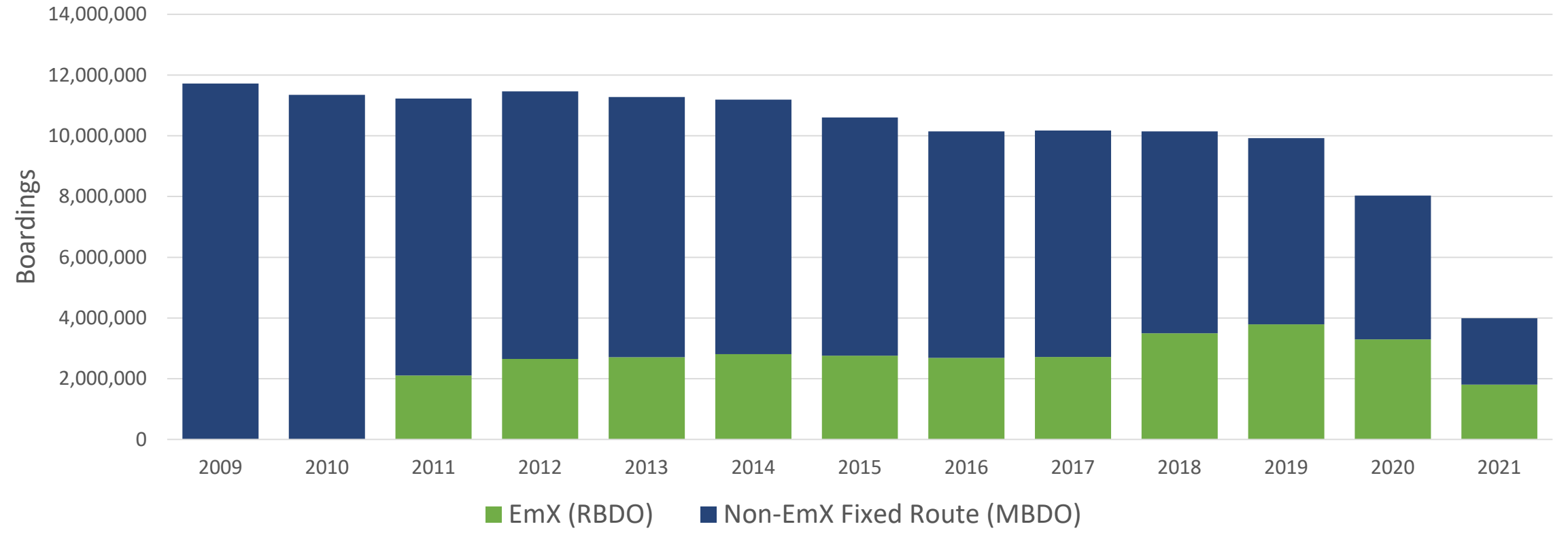
Annual LTD Boardings
Fiscal Year 2009-2021, All Modes



LTD Boardings, Fixed Route FY 09-21



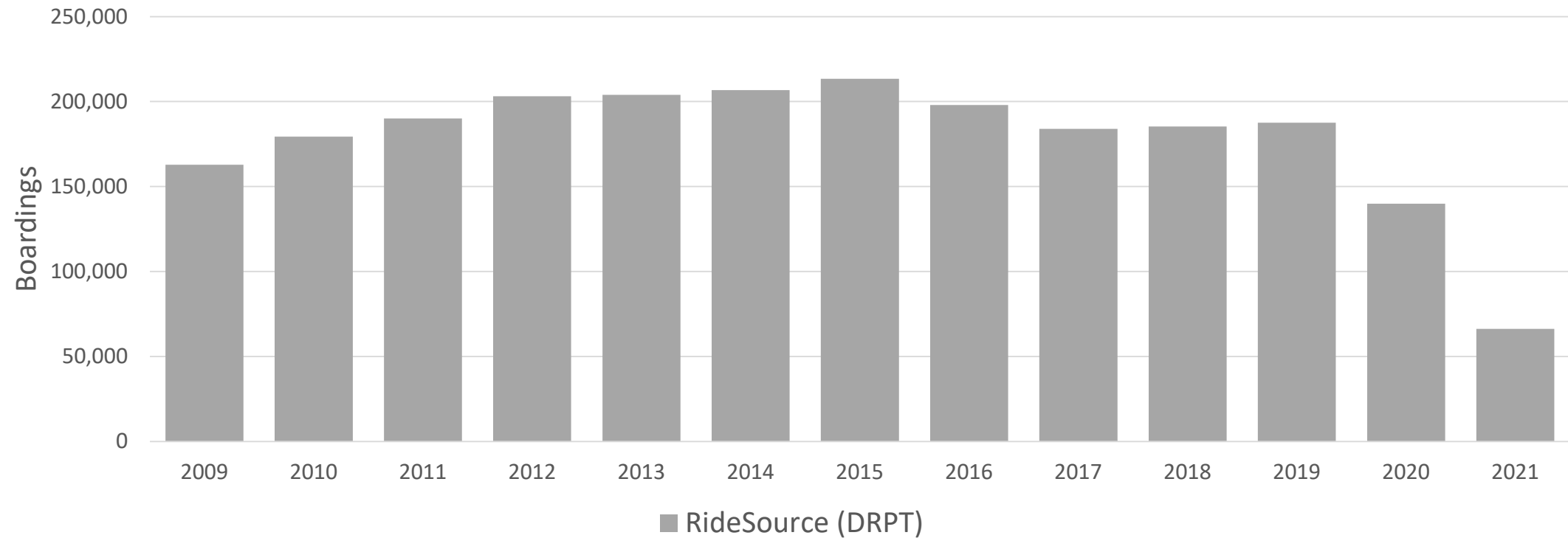
Annual LTD Boardings
Fiscal Year 2009-2021, Fixed Route



LTD Boardings, RideSource FY 09-21



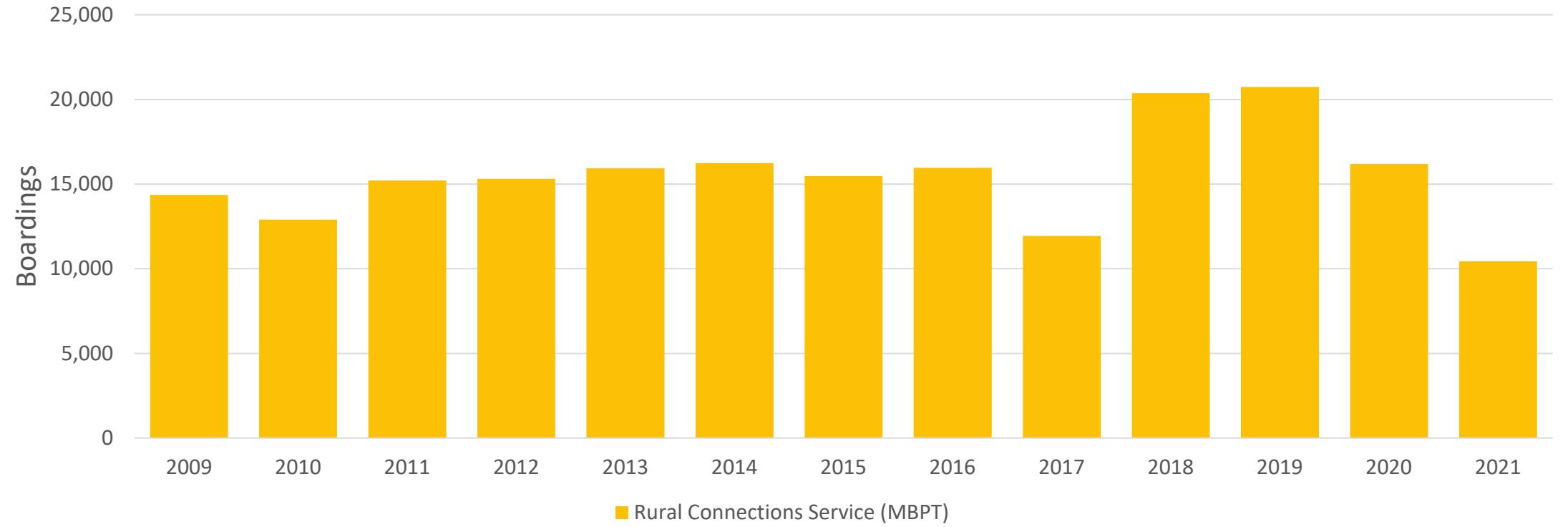
Annual LTD Boardings
Fiscal Year 2009-2021, RideSource



LTD Boardings, Rural Connections, FY 09-21



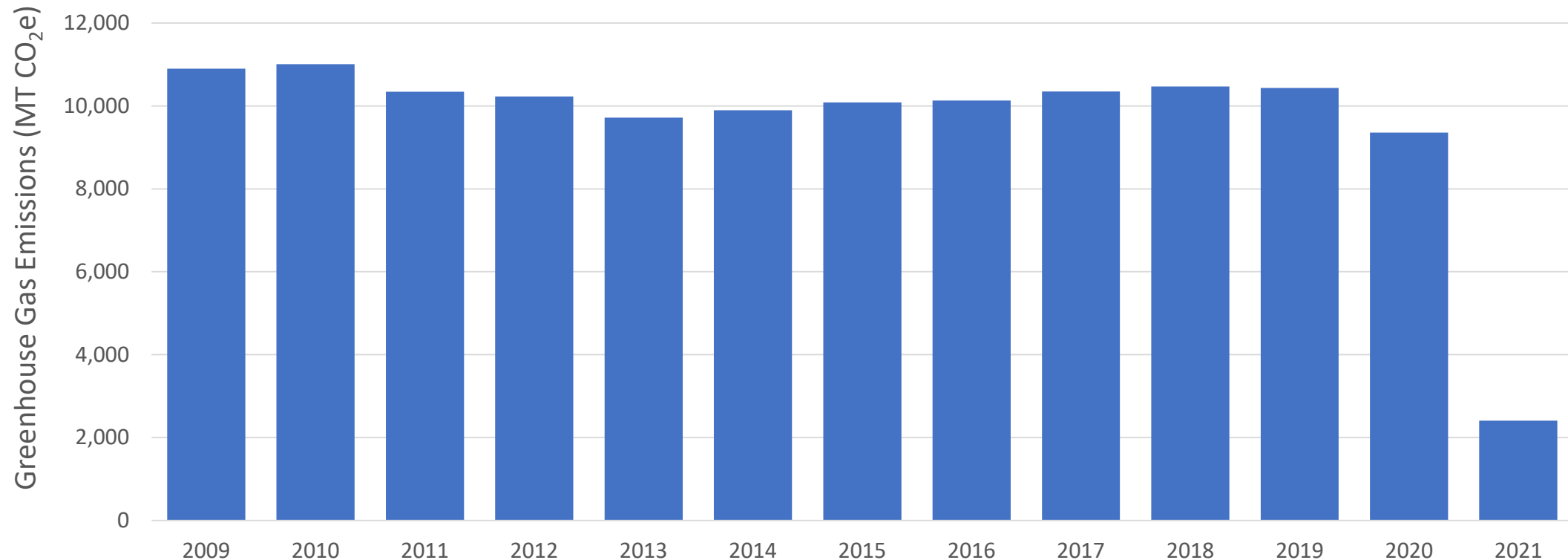
Annual LTD Boardings
Fiscal Year 2009-2021, Rural Connections Service



LTD Fleet GHG Emissions, All Modes FY 09-21



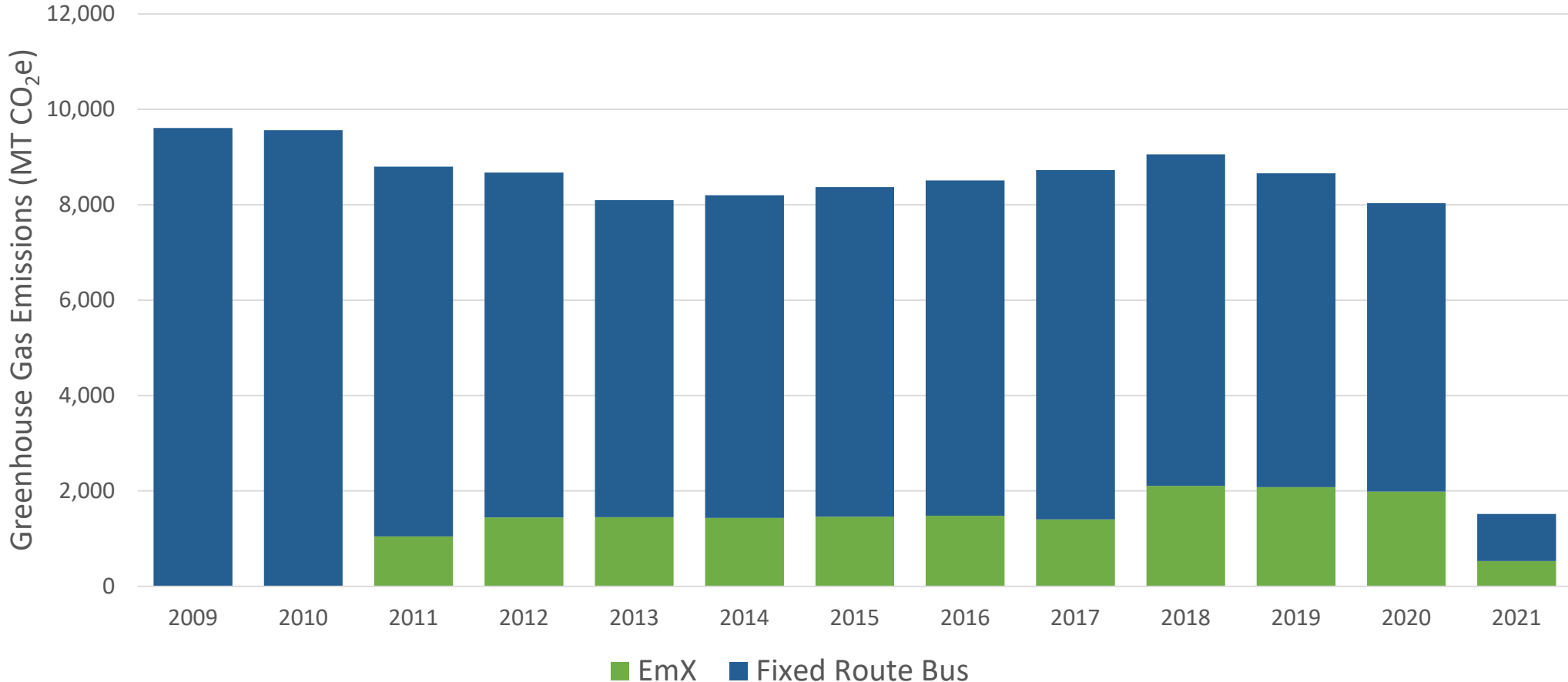
Annual LTD GHG Emissions from Fleet
FY 2009-2021, All Modes



LTD Fleet GHG Emissions, Fixed Route FY 09-21



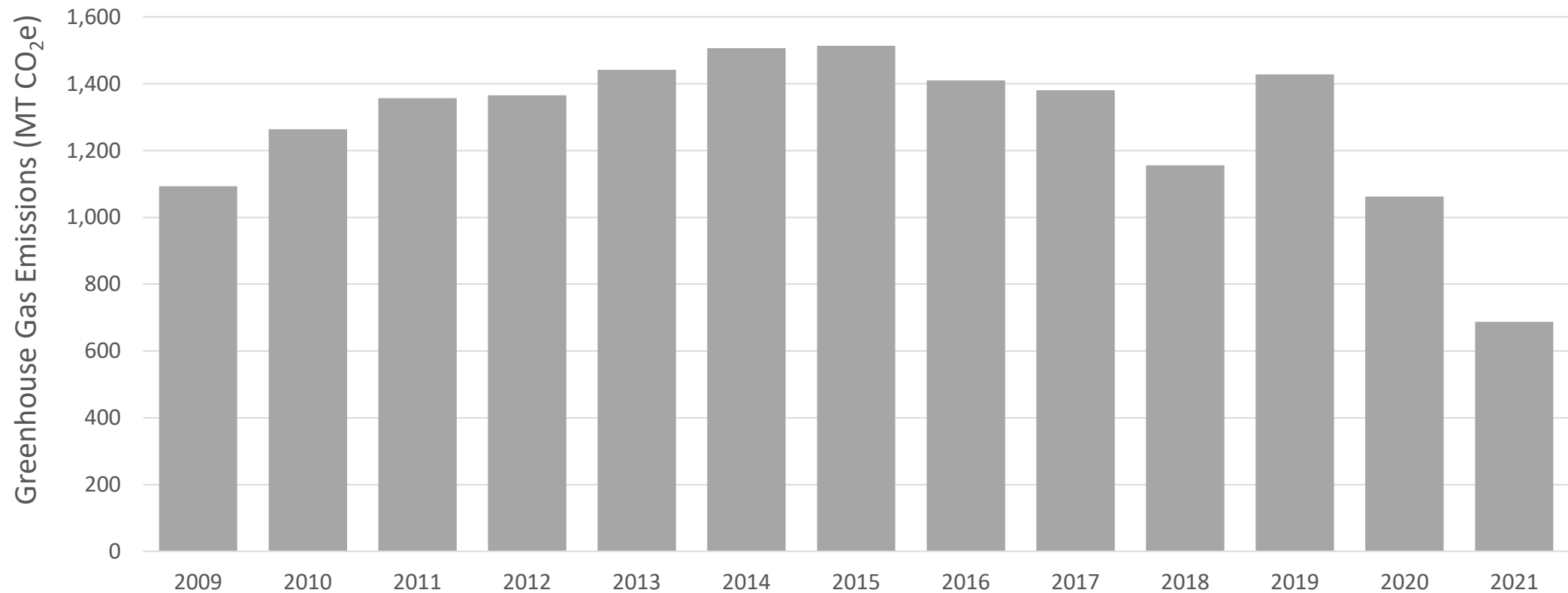
Annual LTD GHG Emissions from Fleet
FY 2009-2021, Fixed Route



LTD Fleet GHG Emissions, RideSource FY 09-21



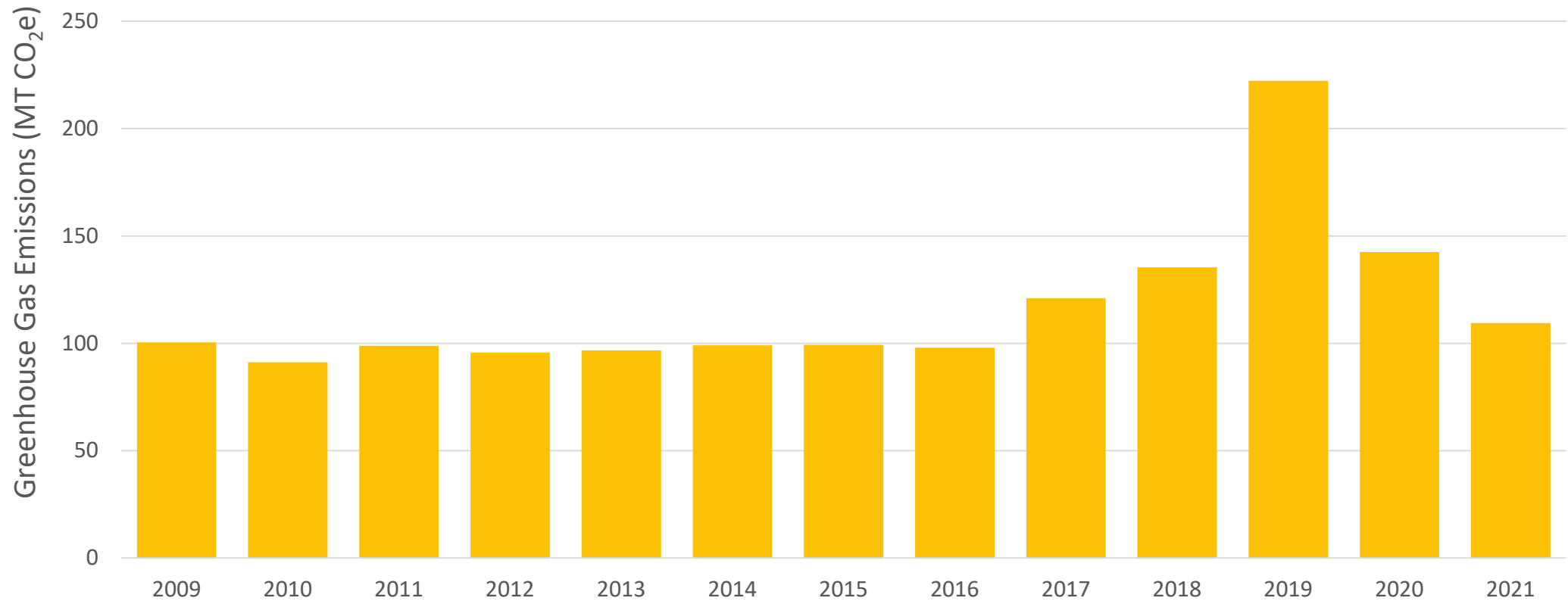
Annual LTD GHG Emissions from Fleet
FY 2009-2021, RideSource



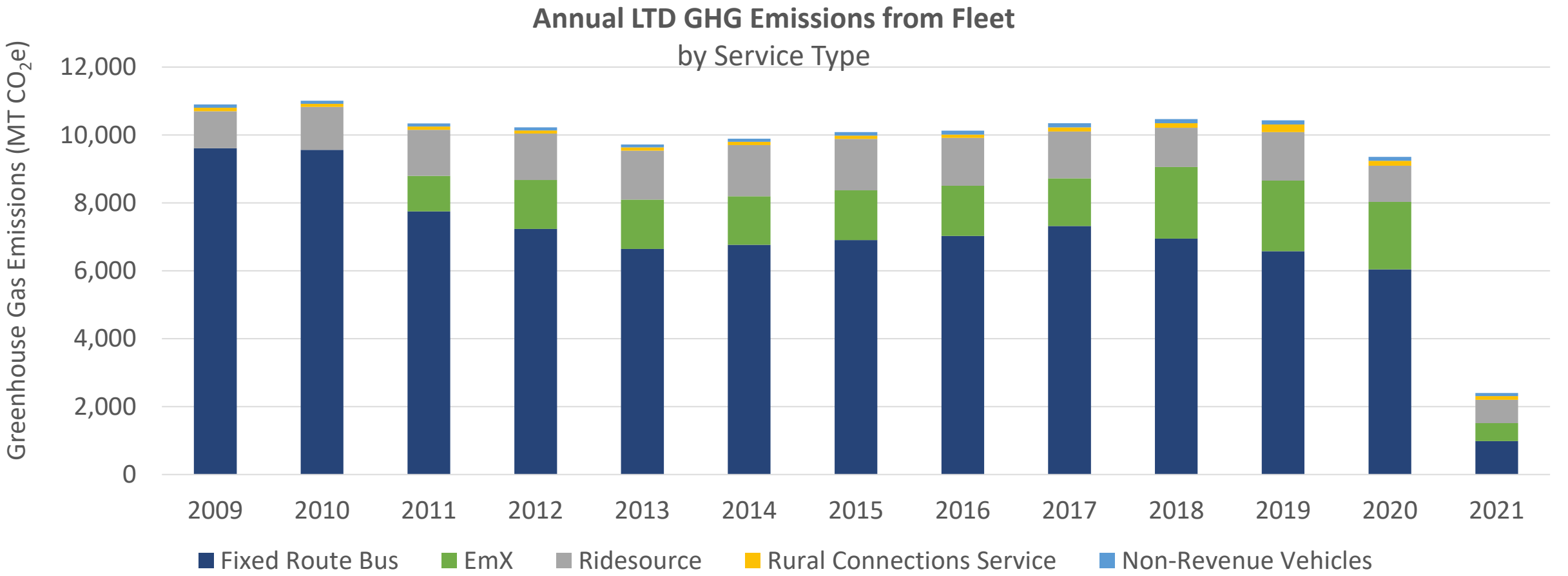
LTD Fleet GHG Emissions, Rural Connections FY 09-21



Annual LTD GHG Emissions from Fleet
FY 2009-2021, Rural Connection Services



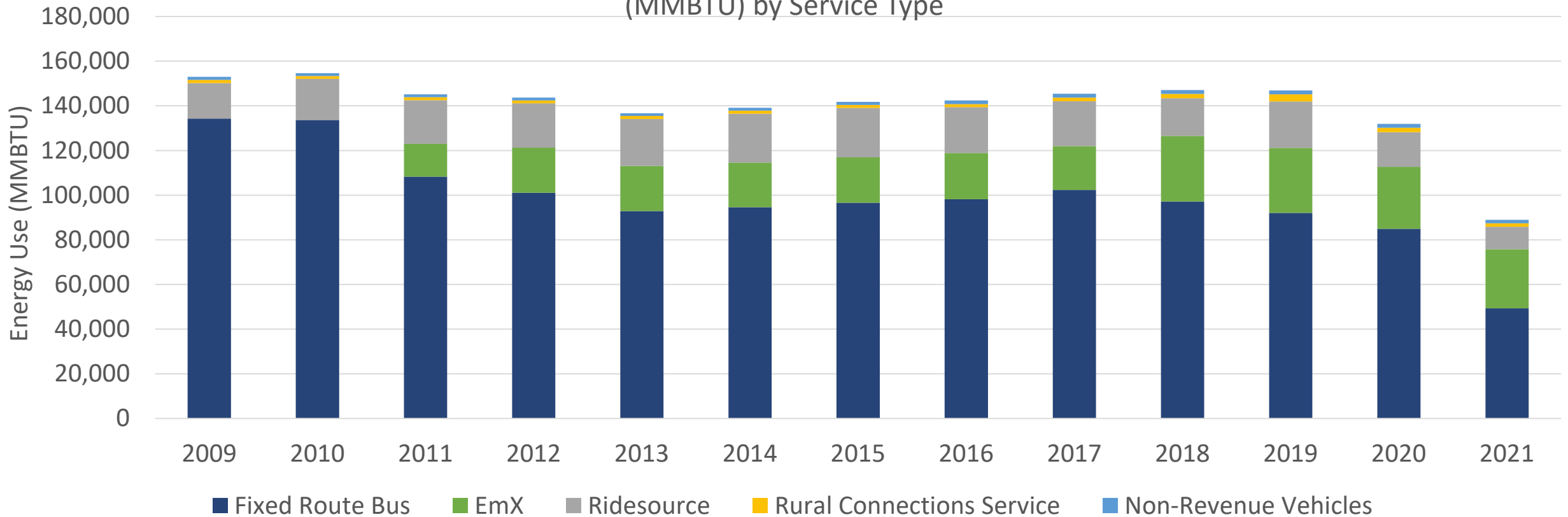
LTD Fleet GHG Emissions, by Service FY 09-21



LTD Fleet Energy Use, by Service FY 09-21



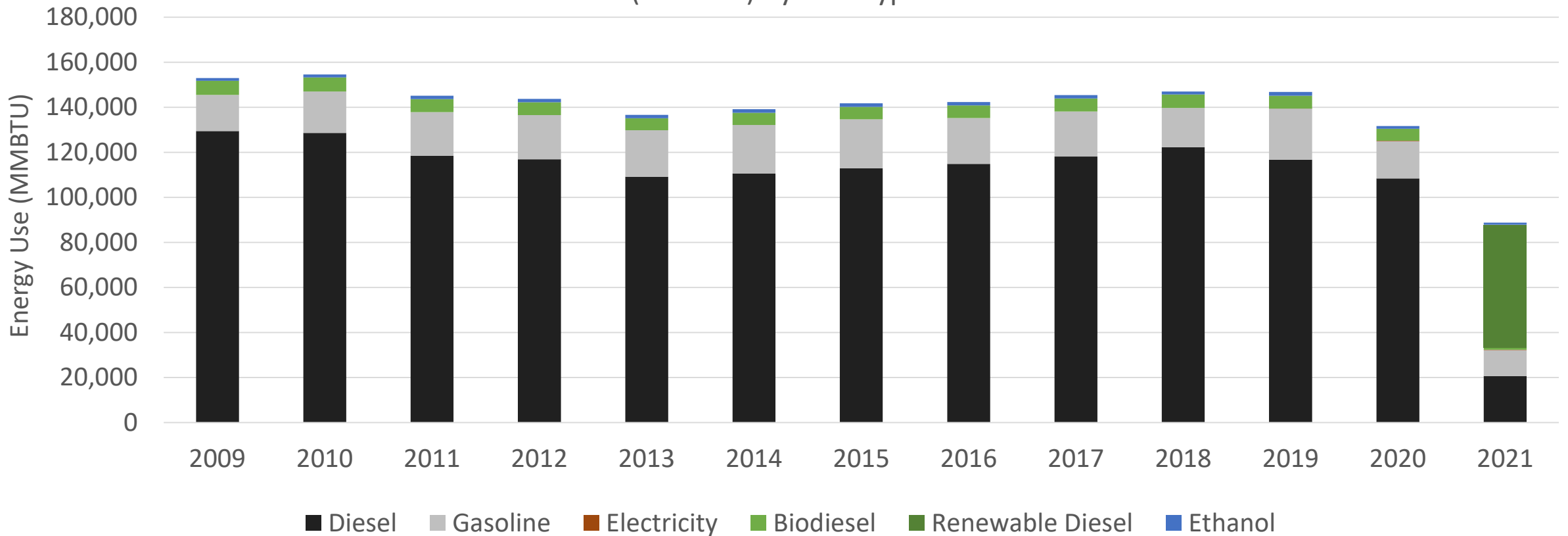
Annual LTD Energy Use from Fleet
(MMBTU) by Service Type



LTD Fleet Energy Use, by Fuel Type FY 09-21



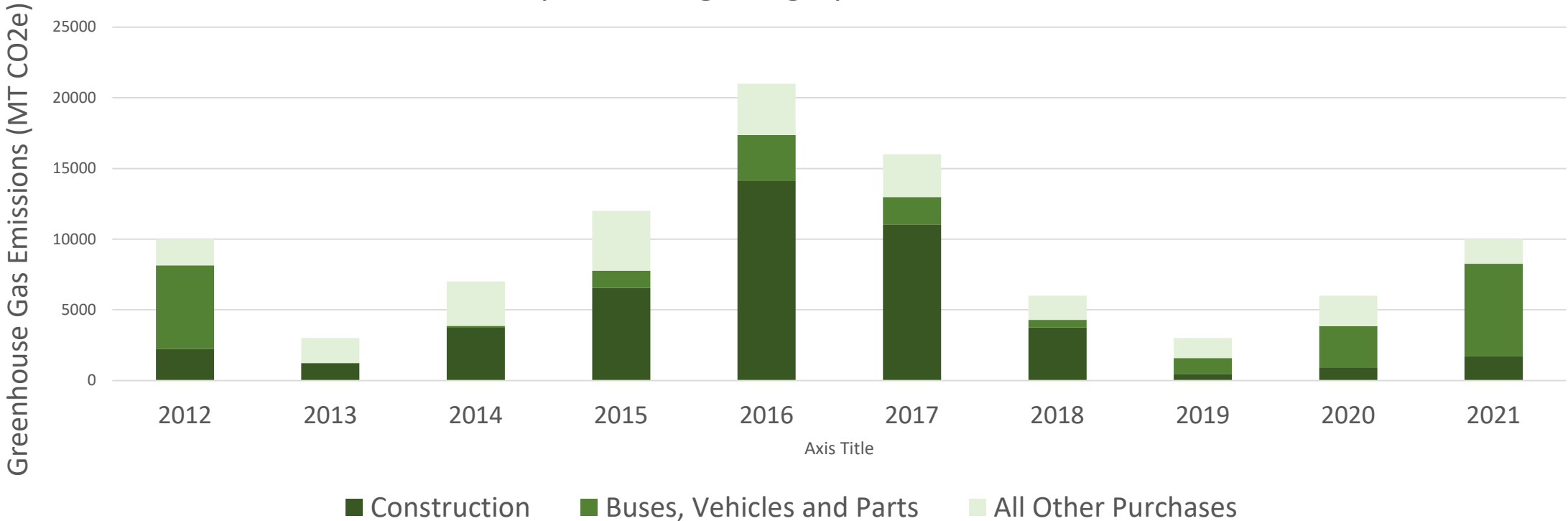
Annual LTD Energy Use from Fleet
(MMBTU) by Fuel Type





Supply Chain Emissions Detail FY 12-21

Annual LTD Estimated Supply Chain GHG Emissions
by Purchasing Category, FY 2012-2021



LTD GHG Emissions Detail FY 09-21



| Inventory Year | SCOPE 1 | | | SCOPE 2 | SCOPE 3 | | | | | Anthropogenic Emissions | | | | | Biogenic Emissions |
|---------------------------|----------------------|----------------------|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Fleet Fuels | Natural Gas | Refrigerants & Processes | Electricity | Upstream Energy | Business Travel | Solid Waste | Commute | Supply Chain | Scope 1 | Scope 2 | Scope 3 | Scope 1 & Scope 2 | Total Emissions | Mobile (biogenic) |
| | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e | MT CO ₂ e |
| 2009 | 10,900 | 359 | n/a | 157 | 3,995 | 0 | 40 | 590 | n/a | 11,259 | 157 | 4,625 | 11,416 | 16,041 | 552 |
| 2010 | 11,010 | 350 | n/a | 153 | 4,043 | 0 | 40 | 590 | n/a | 11,360 | 153 | 4,673 | 11,513 | 16,186 | 560 |
| 2011 | 10,327 | 264 | n/a | 49 | 3,773 | 0 | 40 | 590 | n/a | 10,590 | 49 | 4,403 | 10,640 | 15,043 | 528 |
| 2012 | 10,225 | 267 | 178 | 41 | 3,738 | 0 | 40 | 630 | 10,000 | 10,670 | 41 | 14,408 | 10,711 | 25,119 | 524 |
| 2013 | 9,719 | 228 | 154 | 46 | 3,558 | 0 | 40 | 650 | 3,000 | 10,100 | 46 | 7,248 | 10,146 | 17,394 | 500 |
| 2014 | 9,893 | 297 | 207 | 41 | 3,641 | 0 | 40 | 650 | 7,000 | 10,396 | 41 | 11,331 | 10,438 | 21,768 | 510 |
| 2015 | 10,084 | 287 | 147 | 39 | 3,705 | 0 | 40 | 630 | 12,000 | 10,518 | 39 | 16,375 | 10,556 | 26,931 | 519 |
| 2016 | 10,129 | 282 | 291 | 31 | 3,710 | 20 | 40 | 630 | 21,000 | 10,702 | 31 | 25,400 | 10,733 | 36,133 | 520 |
| 2017 | 10,346 | 370 | 249 | 30 | 3,809 | 20 | 40 | 760 | 16,000 | 10,966 | 30 | 20,629 | 10,995 | 31,624 | 530 |
| 2018 | 10,467 | 381 | 142 | 37 | 3,841 | 20 | 50 | 760 | 6,000 | 10,990 | 37 | 10,671 | 11,027 | 21,698 | 533 |
| 2019 | 10,433 | 362 | 443 | 86 | 3,862 | 10 | 50 | 640 | 3,000 | 11,238 | 86 | 7,562 | 11,324 | 18,886 | 538 |
| 2020 | 9,356 | 366 | 319 | 81 | 3,453 | 10 | 20 | 570 | 6,000 | 10,041 | 81 | 10,053 | 10,122 | 20,175 | 477 |
| 2021 | 2,403 | 351 | 319 | 69 | 2,785 | 10 | 20 | 610 | 10,000 | 3,074 | 69 | 13,425 | 3,142 | 16,567 | 4,288 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative Totals: | 125,291 | 4,164 | 2,449 | 860 | 47,912 | 90 | 500 | 8,300 | 94,000 | 131,903 | 860 | 150,802 | 132,763 | 283,565 | 10,580 |