



# Durham-Orange Light Rail Transit Project Expenses

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APRIL 2022

# Federal Transit Administration

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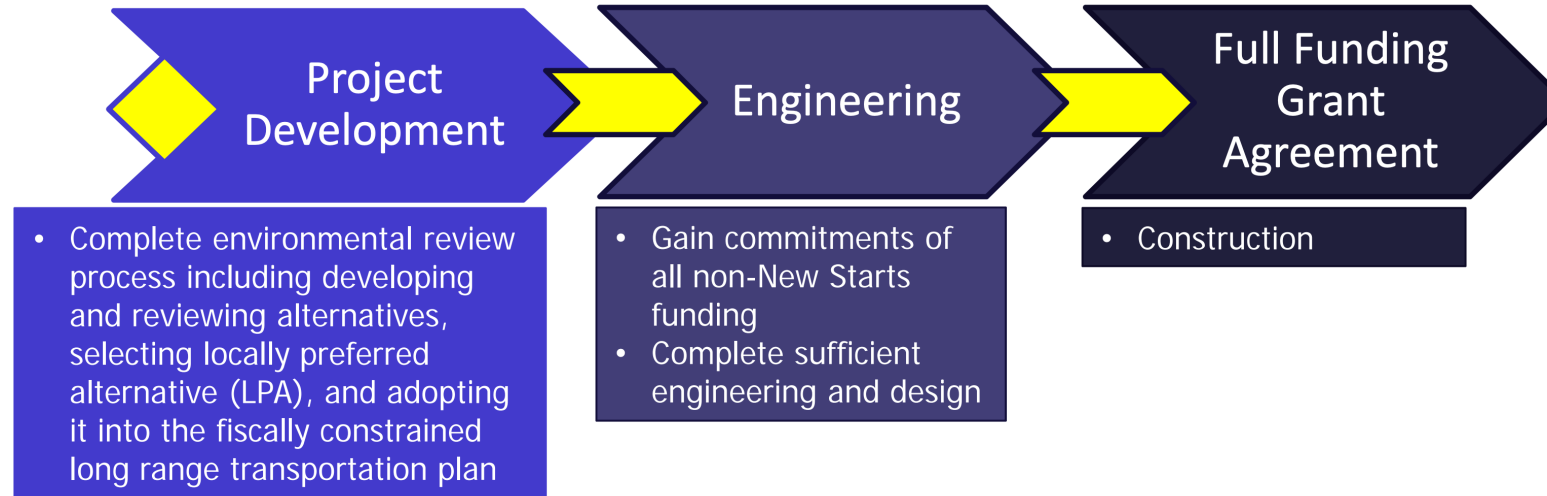
The Federal Transit Administration (FTA) provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys, and ferries. FTA also oversees safety measures and helps develop next-generation technology research. FTA administers the Capital Investment Grants (CIG) program, which is a discretionary grant program that funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit.

Learn more about the FTA on their website at: <https://www.transit.dot.gov/about-fta>.

Learn more about the CIG program on FTA's website at: <https://www.transit.dot.gov/CIG>.

# Federal Funding Process

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- The D-O LRT project sought a federal grant of over \$1 billion through the Capital Investment Grants (CIG) program administered by the Federal Transit Administration.
- D-O LRT completed the Project Development phase of the Capital Investment Grants program's New Starts process as depicted in the diagram above.
- When the project was canceled, it was nearing the completion of the Engineering phase of the program, which was the final phase before receiving the federal grant and beginning construction.
- A comprehensive presentation on the Capital Investment Grants program is available here: <https://youtu.be/jw2mgbEyWBQ>.

# Background and Timeline

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The Durham-Orange Light Rail Transit project would have been an infrastructure investment of over \$2 billion connecting NCCU, Downtown Durham, Duke University, and UNC Chapel Hill through over 17 miles of fast, reliable, and congestion-free light rail transit.

May 2008 – Special Transit Advisory Commission recommends Light Rail between Durham and Chapel Hill.

June 2009 – Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) includes Light Rail in the 2035 Long Range Transportation Plan.

2011 – Durham County voters pass a one-half-cent transit sales tax (60.14% in favor), and Durham County Commissioners approve Light Rail as part of the Bus and Rail Investment Plan.

2012 – Orange County voters pass a one-half-cent transit sales tax (58.88% in favor), and Orange County Commissioners approve Light Rail as part of the Bus and Rail Investment Plan.

May 2012 – Durham County and Orange County negotiate an initial cost-sharing agreement for the capital cost of the Light Rail project.

# Background and Timeline

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June 2013 – DCHC MPO includes Durham-Orange Light Rail (D-O LRT) in the 2040 Metropolitan Transportation Plan.

February 2014 – The Federal Transit Administration (FTA) approves the project for entry into Project Development, the first phase of the federal funding pipeline.

Fall 2015 – DCHC MPO, Durham County, City of Durham, Town of Chapel Hill, and Orange County unanimously endorse a preferred alternative from UNC Hospital to Alston Avenue.

February 2016 – FTA issues a Final Environmental Impact Statement and Record of Decision for the D-O LRT project.

November 2016 – DCHC MPO unanimously recommends including the NCCU station refinement in the D-O LRT project.

# Background and Timeline

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December 2016 – FTA approves an amended Record of Decision including the NCCU station refinement in the D-O LRT project.

April 2017 – Durham County, Orange County, DCHC MPO, and GoTriangle boards vote to commit additional dedicated transit funds for the D-O LRT projects in the updated County Transit Plans and cost-sharing agreement.

July 2017 – FTA approves the D-O LRT project for entry into Engineering, the second phase of the federal funding pipeline.

January 2018 – GoTriangle Board of Trustees authorizes the acquisition of property for the project's Rail Operations and Maintenance Facility.

December 2018 – Durham City Council unanimously approves rezoning and annexation for the project's Rail Operations and Maintenance Facility.

March 2019 – GoTriangle board votes to cancel the D-O LRT project.

D-O LRT Project Costs (FY14 - FY21)	YTD - June 30, 2021
<b>Management and Design</b>	
General Engineering Consultant (HDR)	\$ 86,775,632
Project Development Consultant (URS/AECOM)	\$ 26,722,828
Project Management Consultant (HNTB)	\$ 12,065,515
Construction Management Consultant (Gannett-Fleming/WSP)	\$ 3,278,526
Financial Advisor (PFM)	\$ 1,061,455
E-Builder Project Management Software	\$ 615,000
Design Review Reimbursements	\$ 403,176
<b>Management and Design Total</b>	<b>\$ 130,922,132</b>
<b>Administration and Staff</b>	
Staff/Admin Support	\$ 14,936,603
Project Office	\$ 1,202,569
<b>Administration Total</b>	<b>\$ 16,139,172</b>
<b>Real Estate</b>	
Property Acquisition and Maintenance	\$ 4,702,888
Legal Consultants	\$ 66,458
Other Real Estate Expenses	\$ 1,389,119
<b>Real Estate Total</b>	<b>\$ 6,158,465</b>
<b>Other Professional Services and Operations</b>	
Professional Services	\$ 2,964,083
Operations	\$ 859,761
<b>Other Professional Services and Operations Total</b>	<b>\$ 3,823,844</b>
<b>Management and Design Total</b>	<b>\$ 130,922,132</b>
<b>General and Administrative Total</b>	<b>\$ 16,139,172</b>
<b>Real Estate Total</b>	<b>\$ 6,158,465</b>
<b>Other Professional Services and Operations Total</b>	<b>\$ 3,823,844</b>
<b>Total Expenses</b>	<b>\$ 157,043,612</b>

Totals reflect rounding to the nearest dollar.

# Total Expenses

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Approximately \$157 million was spent on the Durham-Orange Light Rail Transit project beginning in the fiscal year 2014 and ending June 30, 2021.

Average cost-share for the project was 80% Durham County and 20% Orange County. Initial cost-share was 77% Durham County, 23% Orange County. In April 2017, cost-share was renegotiated to 81.5% Durham County, 18.5% Orange County.

Of the total:

- \$130,922,132 was spent on Management and Design (83%)
- \$16,139,172 was spent on Administration and Staff (10%)
- \$6,158,465 was spent on Real Estate (4%)
- \$3,823,844 was spent on Professional Services and Operations (3%)

# Management and Design

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\$130,922,132 of total expenses were spent on project management, design, and other consulting services needed to prepare the project for federal funding and construction.

The majority of these expenses were related to four major consulting contracts, as approved by the GoTriangle Board of Trustees:

- URS/AECOM was the Project Development Consultant (PDC). PDC expenses totaled \$26,722,828.
- HDR was the General Engineering Consultant (GEC). GEC expenses totaled \$86,775,632.
- HNTB was the Program Management Consultant (PMC). PMC expenses totaled \$12,065,515.
- Gannett-Fleming/WSP joint venture was the Construction Management Consultant (CMC). CMC expenses totaled \$3,278,526.
- PFM was the Financial Advisor. Financial Advisor expenses totaled \$1,061,455.
- Expenses for E-builder project management software totaled \$615,000.
- Engineering review reimbursements totaled \$403,176.

URS Corporation (formerly United Research Services) was an engineering, design, and construction firm. Headquartered in San Francisco, California, URS was a full-service, global organization. URS was acquired by AECOM in 2014. At the time of the D-O LRT project, Tim H. Keener was the authorized representative and contract signatory for URS.

AECOM (formerly AECOM Technology Corporation) is a global infrastructure consulting firm, delivering professional services related to planning, design and engineering, program management, and construction management. AECOM has approximately 51,000 employees. Their headquarters is located in Dallas, TX. In North Carolina, they have offices in Raleigh, Morrisville, and Charlotte. At the time of the D-O LRT project, Doug Tennant was the authorized representative and contract signatory for AECOM.

Learn more about AECOM on their website at <https://aecom.com/about-us/>.

## About URS/AECOM

- URS/AECOM was contracted for services related to the project development phase of work.
- During project development, potential project impacts were assessed and required environmental analysis was completed. Environmental analysis culminated in an Environmental Impact Statement and a Supplemental Environmental Assessment containing over 700 pages of documentation.
- URS/AECOM completed a 30 percent level of engineering drawings and plans that were needed to design the project, as it was anticipated at that time.

Management and Design  
Project Development Consultant  
URS/AECOM  
\$26,722,828

HDR is an employee-owned global design firm specializing in engineering, architecture, environmental and construction services. HDR has around 11,000 employees. Their headquarters is located in Omaha, Nebraska. In North Carolina, they have offices in Charlotte, Raleigh, Wilmington, and Winston-Salem. At the time of the D-O LRT project, Jonathan Henderson was the authorized representative and contract signatory for HDR.

Learn more about HDR on their website at <https://www.hdrinc.com/about-us>.

## About HDR

- HDR was contracted for final design services related to the engineering phase of work.
- This work included:
  - Field surveys and investigations, including exploration for subsurface utility engineering, inspections for hydraulic/drainage design, geotechnical borings, and seismic response tests.
  - Engineering plans and specifications, including the design of multiple bridges, aerial structures, and stations.
  - Environmental management, including mitigation monitoring plans and the evaluation of proposed changes to the design of the project.
  - Value engineering, which was required to mitigate potential project cost increases.

Management and Design  
General Engineering Consultant  
HDR  
\$86,775,632

HNTB Corporation is an employee-owned infrastructure solutions firm. HNTB provides professional services related to planning, design, program management, and construction management. HNTB has around 5,000 employees. Their headquarters is located in Kansas City, MO. In North Carolina, they have offices in Raleigh and Charlotte. At the time of the D-O LRT project, Henry V. Liles Jr. was HNTB's authorized representative and contract signatory.

Learn more about HNTB on their website at <https://www.hntb.com/about/>.

## About HNTB

- HNTB was contracted for program management services related to the engineering phase of work.
- This work included:
  - Preparation of materials required for federal evaluation
  - Detailed plan review and management of light rail program elements including:
    - Cost and schedule
    - Real estate
    - Safety and security
    - Quality assurance
    - Rail operations

Management and Design  
Program Management Consultant  
HNTB  
\$12,065,515

Gannett Fleming is a global infrastructure firm that provides planning, design, technology, and construction management services for a diverse range of markets and disciplines. Gannett Fleming has around 2,500 employees. Their headquarters is located in Camp Hill, PA right outside of Harrisburg. In North Carolina, they have offices in Asheville, Charlotte, and Raleigh. At the time of the D-O LRT project, Bryan P. Mulqueen was the authorized representative and contract signatory for Gannett Fleming/WSP joint venture.

Learn more about Gannett Fleming on their website at <https://www.gannettfleming.com/about/>.

WSP is a global professional services consulting firm with technical experts and strategic advisors including engineers, technicians, scientists, architects, planners, surveyors and environmental specialists, as well as other design, program and construction management professionals. WSP has around 50,000 employees. Their headquarters is located in Montreal, Quebec, Canada. In North Carolina, they have offices in Raleigh and Mooresville.

Learn more about WSP on their website at <https://www.wsp.com/en-US/who-we-are>.

# About Gannett Fleming & About WSP

- A joint venture between Gannett-Fleming and WSP was contracted for construction management services related to construction preparation during the engineering phase of work.
- This work included:
  - Cost estimating
  - Construction scheduling
  - Constructability assessments
  - Workforce development planning

Management and Design  
Construction Management Consultant  
Gannett-Fleming/WSP  
\$3,278,526

- \$1,061,455 was spent on financial consulting to conduct financial modeling and assist with financial risk management.
- \$615,000 was spent on E-builder project management software.
- \$403,176 was spent on design review reimbursements.

## Other Management and Design Expenses

# Subcontractors and DBE Participation

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Larger prime consultants partner with subcontractors to complete their work. GoTriangle sets goals for the participation of disadvantaged business enterprises (DBE subcontractors) in work completed by subcontractors.

DBEs are for-profit small businesses where socially and economically disadvantaged individuals own at least a 51% interest and also control management and daily business operations.

GoTriangle's DBE participation in capital projects has regularly exceeded federal guidelines.

- The DBE participation goal for the GEC (HDR) was 14%.
- The DBE participation goal for the PMC (HNTB) was 14%.
- The DBE participation goal for the CMC (GF/WSP JV) was 15%.
- The DBE participation goal for the PDC (URS/AECOM) was 8.8%.

# DBE Subcontractors

General Engineering Consultant  
(HDR)  
DBE Participation – 10.7%

Program Management Consultant  
(HNTB)  
DBE Participation – 11.3%

Construction Management Consultant  
(Gannett-Fleming/WSP Joint Venture)  
DBE Participation – 18.5%

Project Development Consultant  
(URS/AECOM)  
DBE Participation – 13.2%

Team	DBE Firm Name	Approved for Payment through Final Invoice	Race/Ethnicity	Gender	Location
GEC (HDR)	Dovetail Consulting	\$ 4,215.60	Black	Female	Riverdale, GA
GEC (HDR)	CH Engineering	\$ 20,607.45	White	Female	Raleigh, NC
GEC (HDR)	New South Associates	\$ 31,992.35	White	Female	Greensboro, NC
GEC (HDR)	Wetherill Engineering	\$ 66,634.05	White	Female	Raleigh, NC
GEC (HDR)	EVOKE	\$ 121,516.48	Black	Female	Durham, NC
GEC (HDR)	MI Eng	\$ 148,628.51	Other	Male	Raleigh, NC
GEC (HDR)	Morton & Morton	\$ 179,417.24	White	Female	Raleigh, NC
GEC (HDR)	Cross Spectrum	\$ 232,646.08	Black	Male	Springfield, MA
GEC (HDR)	Cooper & Associates	\$ 271,833.37	White	Female	Cary, NC
GEC (HDR)	Simpson Engineering	\$ 381,720.96	Black	Male	Cary, NC
GEC (HDR)	Engineered Design	\$ 486,781.76	White	Female	Cary, NC
GEC (HDR)	Susan Hatchell	\$ 922,695.14	White	Female	Raleigh, NC
GEC (HDR)	Mid-Atlantic	\$ 952,996.10	White	Female	Wilmington, NC
GEC (HDR)	CALYX Engineers	\$ 2,213,825.19	White	Female	Cary, NC
GEC (HDR)	Davenport Engineering	\$ 3,289,600.49	Black	Male	Raleigh, NC
PMC (HNTB)	CH Engineering	\$ -	White	Female	Raleigh, NC
PMC (HNTB)	Neighboring Concepts	\$ 124,201.25	Black	Male	Charlotte, NC
PMC (HNTB)	A1 Consulting	\$ 273,697.23	Asian	Male	Morrisville, NC
PMC (HNTB)	Keville Enterprises	\$ 469,127.56	White	Female	Herndon, VA
PMC (HNTB)	LKG-CMC	\$ 495,507.01	White	Female	Glendale, CA
CMC (GF/WSP JV)	The Collaborative Firm	\$ -	Black	Male	East Point, GA
CMC (GF/WSP JV)	Cincar Consulting Group (C2G)	\$ 10,877.47	Black	Male	Atlanta, GA
CMC (GF/WSP JV)	BBFoster	\$ 13,473.06	Black	Female	Durham, NC
CMC (GF/WSP JV)	BREE & Associates	\$ 15,787.59	Black	Male	Durham, NC
CMC (GF/WSP JV)	CES Consulting	\$ 565,272.17	Asian	Male	Dulles, VA
PDC (URS/AECOM)	LKG-CMC	\$ 50,806.80	White	Female	Glendale, CA
PDC (URS/AECOM)	BREE & Associates	\$ 120,244.56	Black	Male	Durham, NC
PDC (URS/AECOM)	Planning Communities	\$ 176,829.05	White	Female	Raleigh, NC
PDC (URS/AECOM)	Connetics Transportation Group	\$ 198,623.55	White	Female	Atlanta, GA
PDC (URS/AECOM)	Neighboring Concepts	\$ 359,797.48	Black	Male	Charlotte, NC
PDC (URS/AECOM)	Wetherill Engineering	\$ 735,904.05	White	Female	Raleigh, NC
PDC (URS/AECOM)	CH Engineering	\$ 1,885,323.22	White	Female	Raleigh, NC

# Non-DBE Subcontractors

General Engineering Consultant  
(HDR)

Program Management Consultant  
(HNTB)

Construction Management Consultant  
(Gannett-Fleming/WSP Joint Venture)

Project Development Consultant  
(URS/AECOM)

Team	Firm Name	Approved for Payment through Final Invoice	Location
GEC (HDR)	Stantec Consulting (formerly RNL)	\$ 2,306.66	Arlington, VA
GEC (HDR)	Tanner Consulting Group	\$ 3,451.00	Valley Springs, CA
GEC (HDR)	Aston Carter	\$ 8,049.60	Raleigh, NC
GEC (HDR)	Thomas E. Frawley Consulting	\$ 24,660.00	Berwyn, PA
GEC (HDR)	West Ridge Construction	\$ 30,155.00	Matthews, NC
GEC (HDR)	Billings Jackson	\$ 31,765.00	New York, NY
GEC (HDR)	Fire & Risk Alliance, LLC	\$ 33,870.00	Derwood, MD
GEC (HDR)	Gilmore Consulting	\$ 34,872.50	West Chester, PA
GEC (HDR)	Carl Walker (Wantman Group)	\$ 36,855.09	Charlotte, NC
GEC (HDR)	Aerotek	\$ 66,643.40	Raleigh, NC
GEC (HDR)	James Carpenter Design	\$ 86,047.50	New York, NY
GEC (HDR)	RMF Engineering	\$ 148,769.35	Raleigh, NC
GEC (HDR)	DRMP	\$ 168,325.29	Cary, NC
GEC (HDR)	Clarion	\$ 190,157.68	Chapel Hill, NC
GEC (HDR)	RNL	\$ 473,538.57	Arlington, VA
GEC (HDR)	ECS Southeast	\$ 522,587.45	Raleigh, NC
GEC (HDR)	Maintenance Design Group	\$ 769,878.70	Denver, CO
GEC (HDR)	McKim & Creed	\$ 1,827,241.91	Wilmington, NC
GEC (HDR)	LTK	\$ 6,415,624.33	Ambler, PA
GEC (HDR)	Jacobs Engineering	\$ 7,853,044.90	Arlington, VA
PMC (HNTB)	McCracken	\$ -	Chapel Hill, NC
PMC (HNTB)	Rohadfox	\$ 53,781.01	Atlanta, GA
PMC (HNTB)	SNC Lavalin	\$ 119,782.32	Pittsburgh, PA
PMC (HNTB)	Cambridge Systematics	\$ 190,320.40	Medford, MA
PMC (HNTB)	Dewberry	\$ 295,497.11	Raleigh, NC
PMC (HNTB)	SRBTransit	\$ 304,255.78	Phoenix, AZ
PMC (HNTB)	Atkins	\$ 592,147.52	Tampa, FL
PMC (HNTB)	PPS	\$ 1,237,928.79	Kansas City, MO
CMC (GF/WSP JV)	SEPI	\$ 9,391.64	Raleigh, NC
CMC (GF/WSP JV)	Holt Brothers	\$ 14,755.75	Raleigh, NC
CMC (GF/WSP JV)	Summit	\$ 84,760.65	Hillsborough, NC
PDC (URS/AECOM)	Martin/Alexiou/Bryson	\$ -	Raleigh, NC
PDC (URS/AECOM)	Bagile Baumann & Prost (BBP)	\$ -	Washington, D.C.
PDC (URS/AECOM)	Springboard Eydo	\$ -	Cary, NC
PDC (URS/AECOM)	Infraconsult	\$ -	Scottsdale, AZ
PDC (URS/AECOM)	Shook Kelley	\$ 25,411.17	Charlotte, NC
PDC (URS/AECOM)	Russell Corrosion Consultants	\$ 41,923.01	Columbia, MD
PDC (URS/AECOM)	Vantage Point Development Advisors	\$ 180,694.28	Baltimore, MD
PDC (URS/AECOM)	VHB Engineering	\$ 659,818.18	Raleigh, NC
PDC (URS/AECOM)	Cambridge Systematics	\$ 1,142,432.49	Medford, MA
PDC (URS/AECOM)	Mulkey Engineering	\$ 1,740,835.09	Columbia, SC
PDC (URS/AECOM)	STV Inc.	\$ 2,057,245.99	New York, NY
PDC (URS/AECOM)	STV/Ralph Whitehead Associates	\$ 4,016,747.55	New York, NY

# Administration and Staff

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In accordance with Federal Transit Administration requirements for maintaining adequate technical capacity and capability to manage the project, GoTriangle employed a dedicated staff team responsible for overseeing the engineering and management consultants.



# Administration and Staff

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\$16,139,172 of total expenses for the Durham-Orange Light Rail Transit Project was spent on staff, administrative support, and the project office.

- Of this total, \$14,936,603 was spent on staff and administrative support.
- \$1,202,569 was spent on a project office.

Work completed by GoTriangle staff included work related to:

- The design and engineering plans for the project
- Compliance with the FTA's New Starts program requirements
- Project coordination with local government partners
- Project real estate acquisition activities
- Land use entitlement approvals and support for local planning efforts in station areas
- Property owner communications
- Public involvement and marketing
- Financial modeling, budgeting, procurement and administration
- Legal matters related to the project, including the development and execution of project-related agreements.

# Other Professional Services and Operations

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\$3,823,844 of total expenses were spent on other project-related professional services and operational costs. These expenses included:

- Redesign of an impacted facility at the University of North Carolina in Chapel Hill
- Non-profit fundraising management
- Outside legal counsel
- Financial services during the project development phase of work

# Real Estate

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\$6,158,465 of total expenses were spent on real estate, legal consultants, and other property-related costs.

- \$4,702,888 was spent to acquire and maintain 23.71 acres for the project's Rail Operations and Maintenance Facility.
- \$1,389,119 was spent on other property-related expenses including:
  - Appraisals
  - Site review
  - Site preparation
  - Relocation payments
  - Outreach and communications to property owners

# Rail Operations and Maintenance Facility Properties (Durham County)

- 5003 Farrington Road
- 4919 Farrington Road
- 5009 Farrington Road
- 5013 Farrington Road
- 4925 Farrington Road
- 5015 Farrington Road
- 5103 Farrington Road
- 5017 Farrington Road
- 4825 Farrington Road
- 4815 Farrington Road
- 4817 Farrington Road
- 4809 Farrington Road
- 4901 Farrington Road

**Total: 23.71 Acres**





# Discussion