

| <div>Task3_Branch</div> | Author | Browse files | Search by message | |
|--|--------|--------------|-------------------|---|
| Jul 05, 2025 | | | | |
| <div>Added demand satisfaction check to verify all centers, achieving optimal solution</div> <div>Johnson Mill authored 29 seconds ago</div> | | | | <div>e857271d</div> <div></div> <div></div> |
| <div>Fixed constraint formulations using dict.get() to handle invalid routes and...</div> <div>Johnson Mill authored 5 minutes ago</div> | | | | <div>c780ea64</div> <div></div> <div></div> |
| <div>Fixed infeasibility by relaxing flow balance and demand constraints, added diagnostics</div> <div>Johnson Mill authored 8 minutes ago</div> | | | | <div>177d5d18</div> <div></div> <div></div> |
| Jul 04, 2025 | | | | |
| <div>Initial commit: Amazon Air optimization code with initial route assignments.</div> <div>Johnson Mill authored 56 minutes ago</div> | | | | <div>e9d56cc4</div> <div></div> <div></div> |
| <div>Initial commit: Amazon Air optimization code with initial route assignments.</div> <div>Johnson Mill authored 1 hour ago</div> | | | | <div>2d571a86</div> <div></div> <div></div> |
| Aug 05, 2024 | | | | |
| <div>Update file README.md</div> <div>Emilio Miller authored 10 months ago</div> | | | | <div>4ee7dbb4</div> <div></div> <div></div> |

Status: Optimal

Total Cost: \$199,476.25

Non-zero Decision Variables:

x_('Cincinnati',_Leipzig') = 43,470.00 tons
y_('Cincinnati',_Allentown') = 420.00 tons
y_('Cincinnati',_Atlanta') = 3,000.00 tons
y_('Cincinnati',_Barcelona') = 2,800.00 tons
y_('Cincinnati',_Cagliari') = 90.00 tons
y_('Cincinnati',_Castle_Donington') = 30.00 tons
y_('Cincinnati',_Catania') = 185.00 tons
y_('Cincinnati',_Charlotte') = 900.00 tons
y_('Cincinnati',_Cologne') = 640.00 tons
y_('Cincinnati',_Dallas') = 3,300.00 tons
y_('Cincinnati',_Fort_Wayne') = 200.00 tons
y_('Cincinnati',_Hanover') = 180.00 tons
y_('Cincinnati',_Hartford') = 540.00 tons
y_('Cincinnati',_Kansas_City') = 975.00 tons
y_('Cincinnati',_Katowice') = 170.00 tons
y_('Cincinnati',_Lakeland') = 185.00 tons
y_('Cincinnati',_London') = 6,700.00 tons
y_('Cincinnati',_Madrid') = 3,700.00 tons
y_('Cincinnati',_Miami') = 3,400.00 tons
y_('Cincinnati',_Milan') = 800.00 tons
y_('Cincinnati',_Mobile') = 190.00 tons
y_('Cincinnati',_Nashville') = 650.00 tons
y_('Cincinnati',_New_Orleans') = 550.00 tons
y_('Cincinnati',_New_York') = 11,200.00 tons
y_('Cincinnati',_Paris') = 6,500.00 tons
y_('Cincinnati',_Rome') = 1,700.00 tons
y_('Cincinnati',_Sacramento') = 1,100.00 tons
y_('Cincinnati',_San_Juan') = 42.00 tons
y_('Cincinnati',_South_Bend') = 173.00 tons
y_('Cincinnati',_Spokane') = 260.00 tons
y_('Cincinnati',_Tampa') = 1,600.00 tons
y_('Fort_Worth',_Albuquerque') = 450.00 tons
y_('Fort_Worth',_Anchorage') = 175.00 tons
y_('Fort_Worth',_Austin') = 975.00 tons
y_('Fort_Worth',_Baltimore') = 1,300.00 tons
y_('Fort_Worth',_Chicago') = 5,100.00 tons
y_('Fort_Worth',_Denver') = 1,500.00 tons
y_('Fort_Worth',_Des_Moines') = 300.00 tons
y_('Fort_Worth',_Fairbanks') = 38.00 tons
y_('Fort_Worth',_Honolulu') = 500.00 tons
y_('Fort_Worth',_Houston') = 3,300.00 tons
y_('Fort_Worth',_Kahului') = 16.00 tons
y_('Fort_Worth',_Kona') = 63.00 tons
y_('Fort_Worth',_Los_Angeles') = 7,200.00 tons
y_('Fort_Worth',_Manchester') = 100.00 tons
y_('Fort_Worth',_Minneapolis') = 1,700.00 tons
y_('Fort_Worth',_Omaha') = 480.00 tons
y_('Fort_Worth',_Ontario') = 100.00 tons
y_('Fort_Worth',_Phoenix') = 2,400.00 tons
y_('Fort_Worth',_Pittsburgh') = 1,000.00 tons
y_('Fort_Worth',_Portland') = 1,200.00 tons

y_('Fort_Worth',_'Richmond') = 600.00 tons
y_('Fort_Worth',_'Riverside') = 1,200.00 tons
y_('Fort_Worth',_'Rockford') = 172.00 tons
y_('Fort_Worth',_'San_Antonio') = 1,100.00 tons
y_('Fort_Worth',_'San_Francisco') = 1,900.00 tons
y_('Fort_Worth',_'San_Juan') = 1,058.00 tons
y_('Fort_Worth',_'Seattle') = 2,000.00 tons
y_('Fort_Worth',_'St_Louis') = 1,200.00 tons
y_('Fort_Worth',_'Stockton') = 240.00 tons
y_('Fort_Worth',_'Toledo') = 290.00 tons
y_('Fort_Worth',_'Wichita') = 290.00 tons
y_('Fort_Worth',_'Wilmington') = 150.00 tons
z_('Leipzig',_'Bengaluru') = 9,100.00 tons
z_('Leipzig',_'Coimbatore') = 570.00 tons
z_('Leipzig',_'Delhi') = 19,000.00 tons
z_('Leipzig',_'Mumbai') = 14,800.00 tons

Demand Satisfaction Check:

Center Paris: Demand = 6,500.00, Supplied = 6,500.00
Center Cologne: Demand = 640.00, Supplied = 640.00
Center Hanover: Demand = 180.00, Supplied = 180.00
Center Bengaluru: Demand = 9,100.00, Supplied = 9,100.00
Center Coimbatore: Demand = 570.00, Supplied = 570.00
Center Delhi: Demand = 19,000.00, Supplied = 19,000.00
Center Mumbai: Demand = 14,800.00, Supplied = 14,800.00
Center Cagliari: Demand = 90.00, Supplied = 90.00
Center Catania: Demand = 185.00, Supplied = 185.00
Center Milan: Demand = 800.00, Supplied = 800.00
Center Rome: Demand = 1,700.00, Supplied = 1,700.00
Center Katowice: Demand = 170.00, Supplied = 170.00
Center Barcelona: Demand = 2,800.00, Supplied = 2,800.00
Center Madrid: Demand = 3,700.00, Supplied = 3,700.00
Center Castle_Donington: Demand = 30.00, Supplied = 30.00
Center London: Demand = 6,700.00, Supplied = 6,700.00
Center Mobile: Demand = 190.00, Supplied = 190.00
Center Anchorage: Demand = 175.00, Supplied = 175.00
Center Fairbanks: Demand = 38.00, Supplied = 38.00
Center Phoenix: Demand = 2,400.00, Supplied = 2,400.00
Center Los_Angeles: Demand = 7,200.00, Supplied = 7,200.00
Center Ontario: Demand = 100.00, Supplied = 100.00
Center Riverside: Demand = 1,200.00, Supplied = 1,200.00
Center Sacramento: Demand = 1,100.00, Supplied = 1,100.00
Center San_Francisco: Demand = 1,900.00, Supplied = 1,900.00
Center Stockton: Demand = 240.00, Supplied = 240.00
Center Denver: Demand = 1,500.00, Supplied = 1,500.00
Center Hartford: Demand = 540.00, Supplied = 540.00
Center Miami: Demand = 3,400.00, Supplied = 3,400.00
Center Lakeland: Demand = 185.00, Supplied = 185.00
Center Tampa: Demand = 1,600.00, Supplied = 1,600.00
Center Atlanta: Demand = 3,000.00, Supplied = 3,000.00
Center Honolulu: Demand = 500.00, Supplied = 500.00
Center Kahului: Demand = 16.00, Supplied = 16.00
Center Kona: Demand = 63.00, Supplied = 63.00
Center Chicago: Demand = 5,100.00, Supplied = 5,100.00
Center Rockford: Demand = 172.00, Supplied = 172.00

Center Fort_Wayne: Demand = 200.00, Supplied = 200.00
Center South_Bend: Demand = 173.00, Supplied = 173.00
Center Des_Moines: Demand = 300.00, Supplied = 300.00
Center Wichita: Demand = 290.00, Supplied = 290.00
Center New_Orleans: Demand = 550.00, Supplied = 550.00
Center Baltimore: Demand = 1,300.00, Supplied = 1,300.00
Center Minneapolis: Demand = 1,700.00, Supplied = 1,700.00
Center Kansas_City: Demand = 975.00, Supplied = 975.00
Center St_Louis: Demand = 1,200.00, Supplied = 1,200.00
Center Omaha: Demand = 480.00, Supplied = 480.00
Center Manchester: Demand = 100.00, Supplied = 100.00
Center Albuquerque: Demand = 450.00, Supplied = 450.00
Center New_York: Demand = 11,200.00, Supplied = 11,200.00
Center Charlotte: Demand = 900.00, Supplied = 900.00
Center Toledo: Demand = 290.00, Supplied = 290.00
Center Wilmington: Demand = 150.00, Supplied = 150.00
Center Portland: Demand = 1,200.00, Supplied = 1,200.00
Center Allentown: Demand = 420.00, Supplied = 420.00
Center Pittsburgh: Demand = 1,000.00, Supplied = 1,000.00
Center San_Juan: Demand = 1,100.00, Supplied = 1,100.00
Center Nashville: Demand = 650.00, Supplied = 650.00
Center Austin: Demand = 975.00, Supplied = 975.00
Center Dallas: Demand = 3,300.00, Supplied = 3,300.00
Center Houston: Demand = 3,300.00, Supplied = 3,300.00
Center San_Antonio: Demand = 1,100.00, Supplied = 1,100.00
Center Richmond: Demand = 600.00, Supplied = 600.00
Center Seattle: Demand = 2,000.00, Supplied = 2,000.00
Center Spokane: Demand = 260.00, Supplied = 260.00

Total Demand Met: 133,747.00 tons (Expected: 133,747.00 tons)