Service Analysis Technical Memorandum

UCAT Route Optimization Plan

Contents

Purpose and System Overview

Purpose

This technical memo provides an overview of Ulster County Area Transit (UCAT) transit services and its operating data. It also introduces the **Route Profiles** (included at the end of this document), which offer a deeper look at the ridership and operations data at the route level. These materials were prepared as part of the UCAT Route Optimization Plan (ROP) and will be an input for the development of potential service scenarios.

System Overview

UCAT is the public transportation provider for Ulster County, New York. UCAT offers various kinds of services to meet the mobility needs of its residents, including limited service to Orange County and connecting service to Dutchess County. UCAT's services include:

1. **Fixed-Route Services:** UCAT operates a network of fixed-route bus services connecting key locations within the county, including major towns and villages, shopping centers, educational institutions such as several State University of New York (SUNY) campuses, healthcare facilities, and other specific designated activity centers.[1]

2. **Paratransit Services**: For individuals with disabilities who are unable to use the fixed-route service, UCAT offers paratransit services, which is a door-to-door service that requires reservations.[2]

3. **Senior Services**: For seniors aged 60 or older who are registered with the county's Office for Aging (OFA), UCAT provides one round trip per week for shopping and two round trips per week for medical services for free.[3]
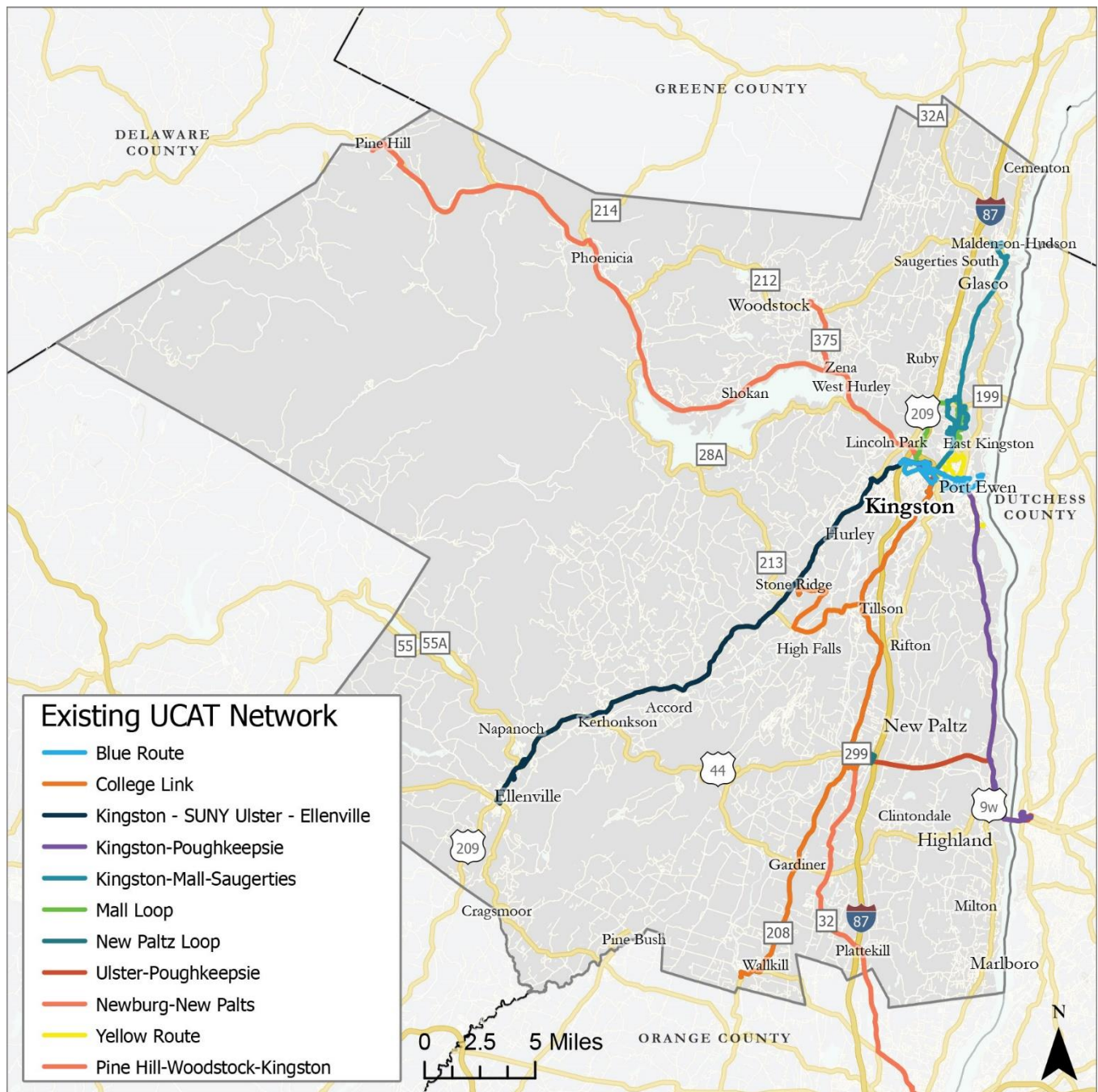
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[1] https://ucat.ulstercountyny.gov/routes/
[2] https://ucat.ulstercountyny.gov/ada-paratransit/
[3] https://ucat.ulstercountyny.gov/senior-services/

Figure 1 is a map of the UCAT transit system.

Purpose and System Overview

Figure 1 | Ulster County Area Transit Map

Existing UCAT Network

- Blue Route
- College Link
- Kingston - SUNY Ulster - Ellenville
- Kingston-Poughkeepsie
- Kingston-Mall-Saugerties
- Mall Loop
- New Paltz Loop
- Ulster-Poughkeepsie
- Newburg-New Palts
- Yellow Route
- Pine Hill-Woodstock-Kingston

Fixed-Route Service

UCAT provides fixed-route bus services that connect important locations within the county. These routes link major towns, villages, shopping centers, SUNY campuses, healthcare facilities, and other designated activity centers.

Summary of Routes

Table 1 presents an overview of the existing UCAT fixed-route services. More details about these routes are available in the route profiles which accompany this memo.

Table 1 | Summary of Existing UCAT Services

Route	Weekday Span	Saturday Span	Sunday Span	Weekday Trips	Saturday Trips	Sunday Trips
Mall Loop (M)	8:15 a.m. - 5:00 p.m.	No Service	No Service	9 loop trips	-	-
Ulster-Poughkeepsie Link (UPL)	5:15 a.m. - 10:40 p.m.	8:00 a.m. - 6:45 p.m.	7:40 a.m. - 4:00 p.m.	8 in each direction	5 in each direction	4 in each direction
Blue Route (B)	6:30 a.m. - 8:57 p.m.	8:00 a.m. - 6:30 p.m.	No Service	13 to Downtown, 12 to Uptown	7 in each direction	-
Kingston-Poughkeepsie Link (KPL)	5:20 a.m. - 9:15 p.m.	7:50 a.m. - 5:50 p.m.	10:30 a.m. - 6:30 p.m.	6 in each direction	5 in each direction	4 in each direction
X Route	5:50 a.m. - 8:46 p.m.	No Service	No Service	5 in each direction	-	-
Z Route	5:00 a.m. - 8:39 p.m.	7:20 a.m. - 5:39 p.m.	No Service	8 in each direction	4 in each direction	-
Kingston-Saugerties Route (KS)	5:20 a.m. - 10:55 p.m.	7:50 a.m. - 6:00 p.m.	No Service	16 in each direction	5 in each direction	-
College Link (CL)	5:20 a.m. - 8:30 p.m.	No Service	No Service	8 in each direction	-	-
Newburgh-Poughkeepsie Link	7:10 a.m. - 9:00 p.m.	7:50 a.m. - 5:30 p.m.	7:50 a.m. - 5:30 p.m.	14 loop trips, 4 trips to/from Kingston	16 loop trips	16 loop trips
Yellow Route	6:30 a.m. - 8:30 p.m.	8:00 a.m. - 5:43 p.m.	No Service	10 in each direction	9 in each direction	-
Ellenville-Ulster Route (EU)	6:20 a.m. - 10:33 p.m.	7:50 a.m. - 6:05 p.m.	No Service	9 in each direction	4 in each direction	-

The following fixed-route services do not have accompanying route sheets either because they are seasonal services that are not being considered for major changes as part of the Route Optimization Plan (Belleayre Express and Nature Bus) or because data was unavailable (T Route):

- **Belleayre Express**

  The Belleayre Express is a seasonal service that runs from January through April on Saturdays, Sundays, and holidays. When in season, service runs four times a day between Kingston Plaza and Belleayre Mountain Ski

Resort, making stops along Route 28 in West Hurley, Boiceville, and Phoenicia. This service is primarily intended to provide transit access to skiing destinations.

- **Nature Bus**

  Figure 2 | Vehicle with Nature Bus Branding

  Nature Bus is a branded service for three alternating routes (River Route, the Mountain Route, and the Ridge Route) that is currently operating on Saturdays from April through October of 2024. The idea for the Nature Bus program was initiated by County Executive Jen Metzger in collaboration with Ulster County Area Transit (UCAT) and the Office of Tourism to expand opportunities for residents to the county's outdoor recreational destinations. The Nature Bus serves Sam's Point, Ashokan Rail Trail, Walkway Over the Hudson, Minnewaska, and the Catskills Visitor Center, among other recreational destinations.

- **T Route**

  The T route is UCAT's newest fixed-route service that connects the Kingston Inn at Forest Hill Drive to Kingston Plaza. Ridership data for this route was not available at the time that the route profiles were developed.

Route Profiles

The UCAT **Route Profiles** included at the end of this document provide a snapshot of the various metrics that illustrate the characteristics and performance of each route in the system. Key metrics in the route profiles include:

- **Hours of Operation**: When services start and end on each day of the week (also sometimes referred to as the span) by day type (weekday, Saturday, and Sunday).
- **Daily Number of Trips**: The scheduled number of vehicle trips by day type.
- **Average Daily Ridership**: The average number of passenger boardings by day type.
- **Productivity (passengers per revenue hour)**: The total number of passenger boardings divided by the total number of revenue hours. This is a common metric to assess a route's overall efficiency.
- **Operating Cost Per Passenger Trip**: The total cost to operate the route divided by the total number of passenger boardings. This indicates which routes receive a higher subsidy per passenger.
- **On-Time Performance**: The percentage of time that a route is on-time, early (arriving earlier than one minute ahead of schedule), or late (arriving five or more minutes behind schedule).
- **Route Map**: The route map includes major stops and a heat map of ridership activity.
- **Route Demographics**: These demographics include the total number of people and jobs within a quarter mile of each route's stops.

The **Route Profiles** also show how each route relative to the others by showing the system average and the route's rank compare to the others (for select metrics).

Fixed-Route Operations

Table 2 presents a summary of fixed-route operations in Ulster County from calendar year 2017 to 2022. Overall, there was a major decrease in service between 2018 and 2020 due to COVID-19 pandemic-related shutdowns. The total operating expenses increased significantly (73 percent) between 2020 and 2022; vehicle revenue hours increased by 38 percent during the same period, while vehicle revenue miles increased by 60 percent. This proportionally larger increase in expenses compared to operations may also be the result of increased inflation.

Table 2 | UCAT Fixed-Route Operations Summary, 2017-2022[4]

Calendar Year	Total Operating Expenses (in Millions)	Vehicle Revenue Hours	Vehicle Revenue Miles
2022	$6.9	54,561	942,925
2021	$4.9	50,483	858,684
2020	$4.0	39,678	593,009
2019	*Data Unavailable*		
2018	$4.4	56,924	961,364
2017	$4.4	57,757	964,269

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[4] Federal Transit Administration National Transit Database, Transit Agency Profiles

Paratransit Service

In compliance with the Americans with Disabilities Act (ADA), enacted in 1990, public transit operators must provide paratransit services for eligible individuals whose disabilities prevent them from using lift-equipped public transit. UCAT provides an ADA complementary paratransit service to residents and visitors. The service is designed to offer safe and reliable transportation for individuals with disabilities who cannot use the fixed-route bus service. This service follows ADA guidelines and extends beyond the federal minimum service area to accommodate the rural nature of Ulster County. Eligibility for the service is determined based on specific disability-related criteria, not age or economic status. The service aims to mirror the fixed-route service in span (hours of operation) and service area to ensure equal access to public transportation for eligible individuals.

Paratransit Ridership

Figure 3 displays a map of paratransit boardings in Ulster County. Between January 2020 and November 2021. The greatest number of boardings occur between Lake Katrine and Kingston along Ulster Avenue and Albany Avenue. Areas with moderate boarding activity include: Downtown New Paltz, Woodstock, Ruby, and Glasco and Malden-on-Hudson along Highway 9W.

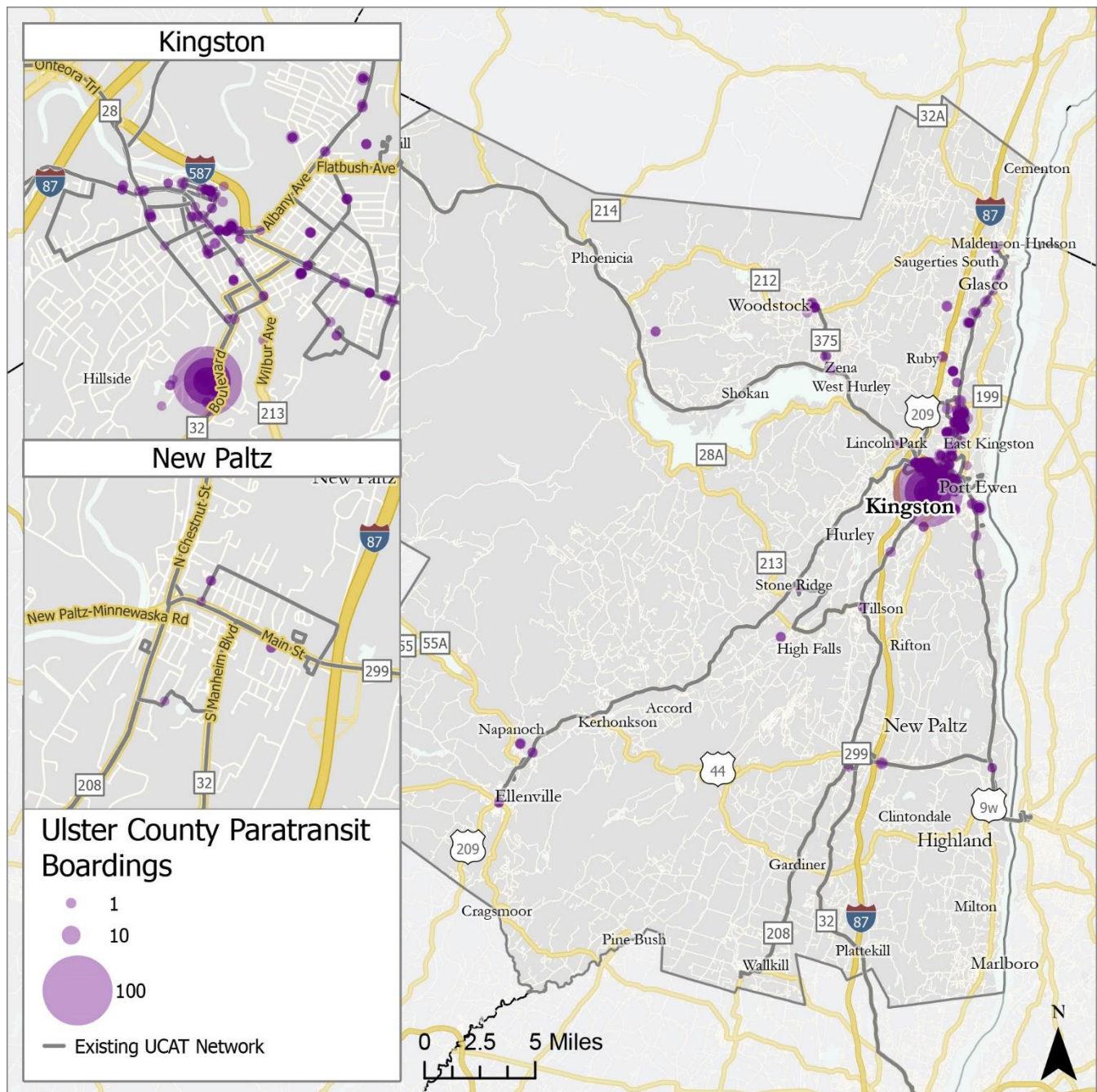**Figure 3 | Ulster County Paratransit Boardings (2020-2021)**

Figure 4 shows a map of paratransit alightings in Ulster County from January 2020 through November 2021. The alightings pattern is similar to that of the boardings. Most of the alightings happen in and around Kingston with very few alightings happening in New Paltz.

Figure 4 | Ulster County Paratransit Alightings (2020-2021)

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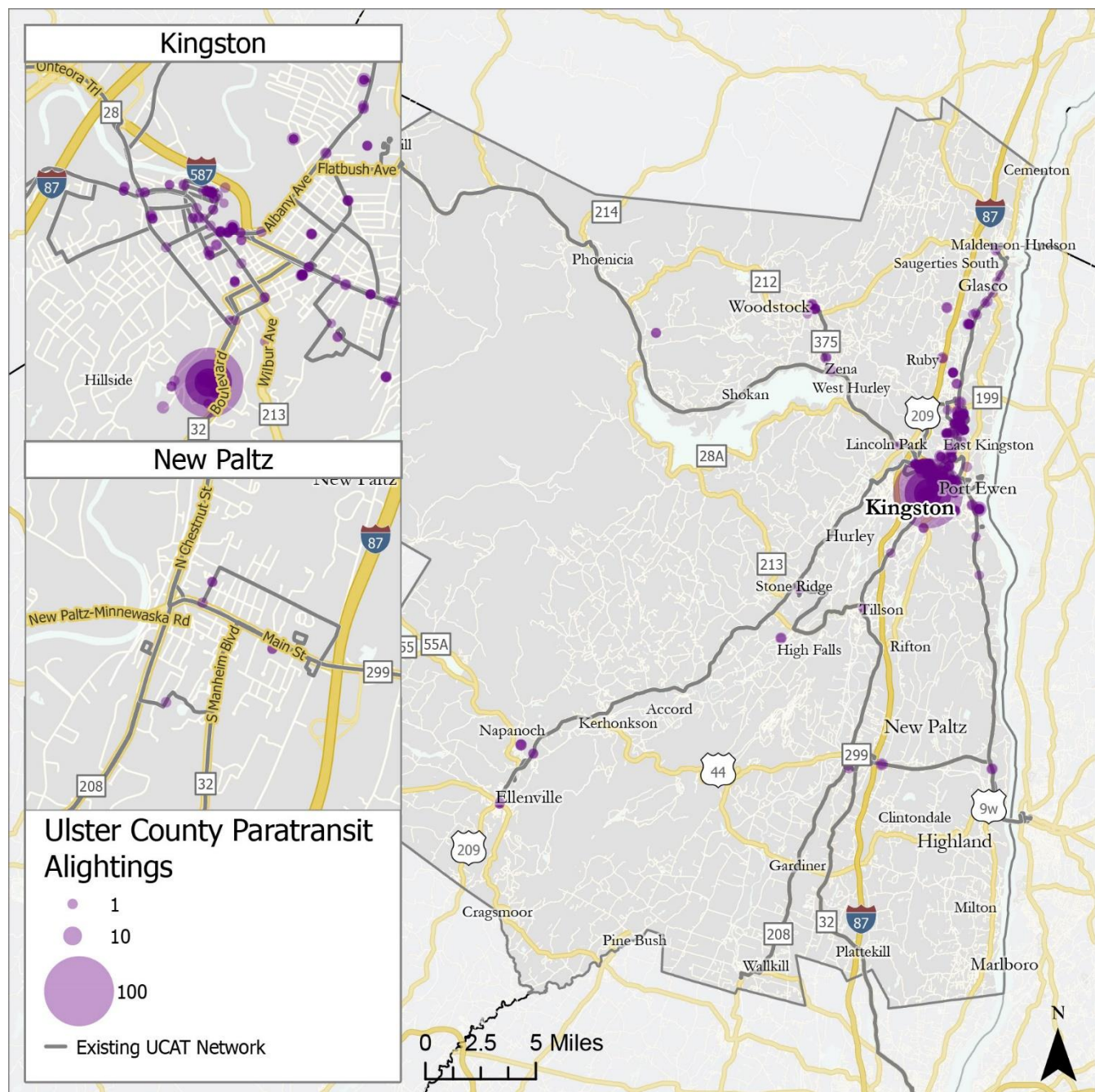
Paratransit Operations

Table 3 | presents a summary of paratransit operations in Ulster County from calendar 2017 to 2022. Paratransit overall is a smaller percentage of UCAT's operating budget. While the total operating expenses have remained more consistent over time (with a bump in 2020) compared to fixed-route service, the vehicle revenue hours and miles have decreased significantly, indicating an overall increase in operating costs similar to fixed-route services.

Table 3 | UCAT Paratransit Operations Summary, 2017-2022[5]

Calendar Year	Total Operating Expenses (in Millions)	Vehicle Revenue Hours	Vehicle Revenue Miles
2022	$0.67	5,678	73,738
2021	$0.61	6,061	57,601
2020	$0.74	11,466	56,646
2019	*Data Unavailable*		
2018	$0.64	8,397	118,026
2017	$0.64	8,161	131,247

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[5] Federal Transit Administration National Transit Database, Transit Agency Profiles
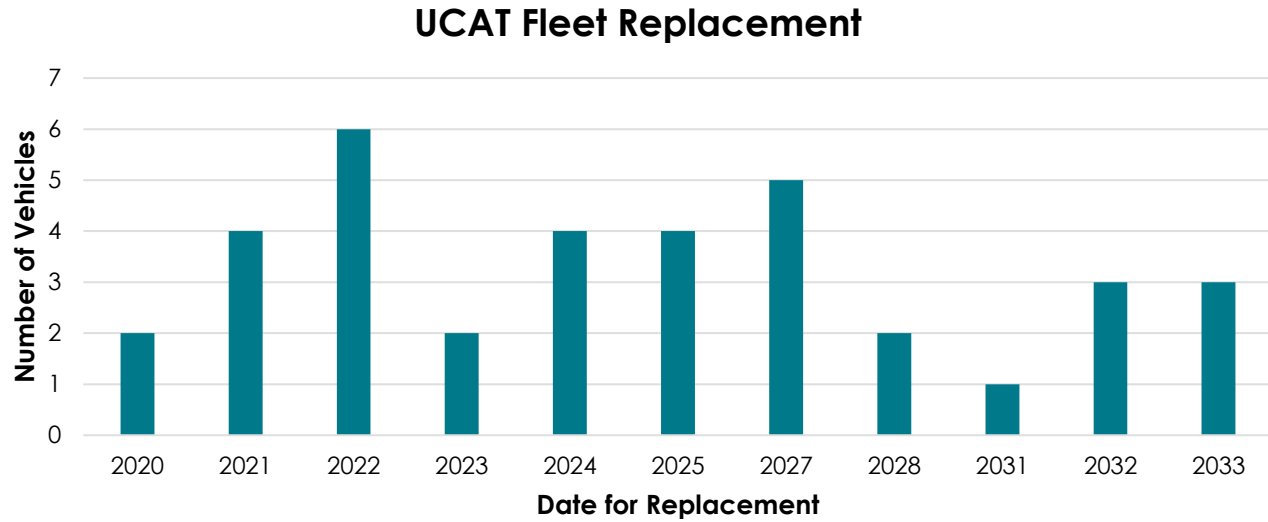
Fleet and Vehicle Overview

UCAT has a diverse fleet of vehicles aimed at delivering efficient, reliable, and accessible transportation services to the community. This fleet includes a variety of bus types of different sizes and capacities. **Table 4** provides a summary of the existing fleet including the capacity, age, and target replacement year.

Table 4 | UCAT Fleet Inventory

Year	Fuel Type	Type	Vehicles	Target Replacement Year	Seated Capacity	Standing Capacity	Wheelchair Capacity
2010	Diesel Hybrid	Bus	2	2022	32	19	2
2011	Diesel	Bus	2	2023	32	19	2
2012	Diesel	Bus	2	2022	26	15	2
2014	Diesel	Bus	2	2021	25	15	2
2015	Diesel	Bus	1	2022	25	15	2
2015	Gas	Cutaway	2	2020	21	15	2
2016	Gas	Cutaway	2	2021	14	8	3
2017	Diesel	Bus	4	2024	25	15	2
2017	Gas	Cutaway	1	2021	4	2	2
2018	Diesel	Bus	2	2028	26	15	2
2019	Diesel	Bus	1	2031	38	22	2
2019	Gas	Cutaway	4	2025	21	12	2
2020	Diesel	Bus	3	2032	32	19	2
2021	Electric	Bus	3	2033	32	19	2
2022	Electric	Cutaway	3	2027	5	0	2
2022	Gas	Cutaway	2	2027	18	10	2

Figure 5 illustrates the vehicle replacement schedule over a 14-year period. The most significant replacements happened in the 2021 and 2022, with four and six vehicles respectively. Other notable replacements scheduled to occur in the future include four vehicles in both 2024 and 2025, and five vehicles in 2027.

Figure 5 | UCAT Fleet Replacement Schedule

UCAT Fleet Replacement

Route Profiles