

CPPR RESEARCH PAPER

COMPARISON OF COST OF OPERATIONS IN KSRTC, PRIVATE STAGE CARRIAGES, AND AITP BUSES



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Table of Contents

1. Introduction	2
2. Overview of Public Bus Services in Kerala	3
2.1 Kerala State Road Transport Corporation (KSRTC)	3
2.2 Private Stage Carriage Services	3
2.3 All India Tourist Permit Buses	4
3. Cost of Operation	4
3.1 Personnel Cost	4
3.2 Fuel Cost	6
3.3 Maintenance Cost	7
3.4 Cost Incurred by Operators for Tax, Insurance, and Permit	8
3.4.1 Tax	8
3.4.2 Insurance	8
3.4.3 Permit fees	9
3.5 Depreciation	9
3.6 Other Costs	10
4. Total Cost of Operations (per Kilometre per Seat)	11
5. Way Forward	12
5.1 Key Policy Directions	13
6. Reference	14
Annexure 1	16

COMPARISON OF COST OF OPERATIONS IN KSRTC, PRIVATE STAGE CARRIAGES, AND AITP BUSES

1. Introduction

Kerala is well known for its bus-based public transport system. In the early 2000s, the state had 35,000¹ buses for its 31.8 lakh population - one bus for every 910 people. Historically dominated by private stage carriage operators, the sector has steadily declined over the last two decades owing to rising regulatory and operational constraints. Currently, the bus count stands at one bus per 2,807 people (see Table 1), which has led to lower ridership and increased use of private vehicles, resulting in congestion and environmental issues. As stricter regulations constrain traditional operators, a new market is evolving around the All India Tourist Permit (AITP) system introduced in 2023, offering greater operational flexibility. This paper compares the cost of operations among KSRTC, private stage carriage buses, and AITP buses, aiming to understand their relative efficiencies, challenges, and implications on the sustainability of Kerala’s public transport.

Table 1: Changes in Number of Stage Carriage Buses in Kerala (from 2000 to 2023)

Year	No. of Stage Carriage Buses	Population	Bus per population
2000	35,000*	31,841,374 (2001 census)	1 bus every 910 people
2013	24,500	33,406,061 (2011 census)	1 bus for every 1,364 people
2023	12,500	35,090,000	1 bus for every 2,807 people

Source: Author

*As per stakeholder consultation and news reports

As per stakeholder consultation and news reports
<https://www.thehindu.com/news/national/kerala/demand-for-smaller-buses-gaining-ground-in-kerala/article38055987.ece>

2. Overview of Public Bus Services in Kerala

Bus transportation in Kerala began with private operations by the Meenachil Motor Association² in 1910. The Travancore Government later introduced organised public transport through the Travancore State Transport Department in 1937³, which eventually evolved into the Kerala State Road Transport Corporation (KSRTC) in 1965. Since then, Kerala's bus transport system has expanded with participation from the government and the private sector, offering a diverse range of services across the state.

Today, Kerala's bus-based transport operations can be broadly classified into three categories:

1. State-owned KSRTC services
2. Privately operated stage carriage services
3. Privately operated luxury services under the All India Tourist Permit (AITP buses)

2.1 Kerala State Road Transport Corporation (KSRTC)

According to data published by the Transport Department in 2021, KSRTC operated 4,523 buses, covering approximately 5.489 lakh km in 2016. Its highest recorded daily ridership in 2024 was 24.94 lakh passengers⁴, with each bus covering an average of 333 km per day. KSRTC primarily uses 42-seater buses to run both moffusil (rural and inter-town) and long-route stage carriage services across Kerala and neighbouring states. At present, it is the sole operator authorised to provide long-distance stage carriage services above 140 km, like Fast Passenger and Town-to-Town services, as private operators are restricted from plying these routes.

2.2 Private Stage Carriage Services⁵

Private stage carriage buses continue to be a major component of Kerala's public transport network, with around 7,200 buses operating across the state as of 2023. These services cater to approximately 40 lakh passengers daily⁶, with each bus covering an average of 300 km per day. Typically equipped with 36 seats, private stage carriage operators offer three main types of services:

² <https://www.manoramaonline.com/news/sunday/2019/07/28/first-bus-service-in-kerala-sunday-story.html>

³ Kerala RTC history, <https://www.keralartc.com/about-us/history>

⁴ <https://www.newindianexpress.com/states/kerala/2025/Sep/09/ksrtc-earns-record-breaking-daily-revenue-of-rs-10-crore-marking-all-time-high>

⁵ Stage carriage services - Stage carriage means a motor vehicle carrying or adapted to carry more than six persons excluding the driver which carries passengers for hire or reward at separate fares paid by or for individual passengers, either for the whole journey or for stages of the journey.

⁶ P. Prageeth, "Private Bus Counts Nosedives in Kerala," *IOSR Journal of Business and Management (IOSR-JBM)* 25, no. 3 (2023): 35–38, <https://doi.org/10.9790/487X-2503023538>

- City Buses (Green Buses): Operate within city limits and up to 5 km beyond. These routes have frequent stops at designated city bus stands. These services typically cover a daily run of 200–300 km per bus.
- Moffusil or Ordinary Service Buses (OS / Blue Buses): Operate on longer routes of up to 140 km, connecting towns and rural areas with frequent stops. A Moffusil bus generally runs 250–350 km per day.
- Limited Stop Ordinary Service (LSOS / Pink Buses): Run on intercity routes with fewer, designated stops, providing faster travel for medium-distance passengers. Routes may also extend up to 140 km, with daily runs of 300–400 km.

2.3 All India Tourist Permit Buses

Introduced under the AITP Rules, 2023, these services represent a new category of luxury contract carriage operations regulated by the Central Government. Unlike stage carriage services, AITP operators have greater flexibility in fare setting and scheduling. There are currently around 200 AITP buses operating in Kerala. These vehicles, typically 40-seater coaches, cover about 800 km per day. While the capital investment—including bus cost, permit fees, and insurance—is substantially higher, these services target premium passengers and intercity travelers seeking comfort and reliability.

3. Cost of Operation

Cost of operations is a decisive factor that determines the financial strength and sustainability of the sector. While the capital investment in the bus transportation sector is fairly high, the operational cost of the service determines whether it is sustainable or not, and what needs to be changed for its improvement. In Kerala, both KSRTC and private operators face challenges in operation due to either the cost of operations or regulatory constraints. This section presents a comparative analysis of operational costs of the three categories, based on key parameters such as personnel cost (salary of the employees), fuel cost, maintenance cost, taxes, insurance, permit fees, depreciation, and other costs.

3.1 Personnel Cost

As per officially published data, KSRTC paid ₹774.58 crore in 2016 as salaries to its employees, including drivers, conductors, maintenance staff, and administrative staff. In addition, ₹581.35 crore was spent on pensions and salaries for employees on leave. When

converted to a per-kilometre basis, the corporation incurred ₹14 as salary expense and ₹10.59 towards pension and paid leave for every kilometre operated by a bus.

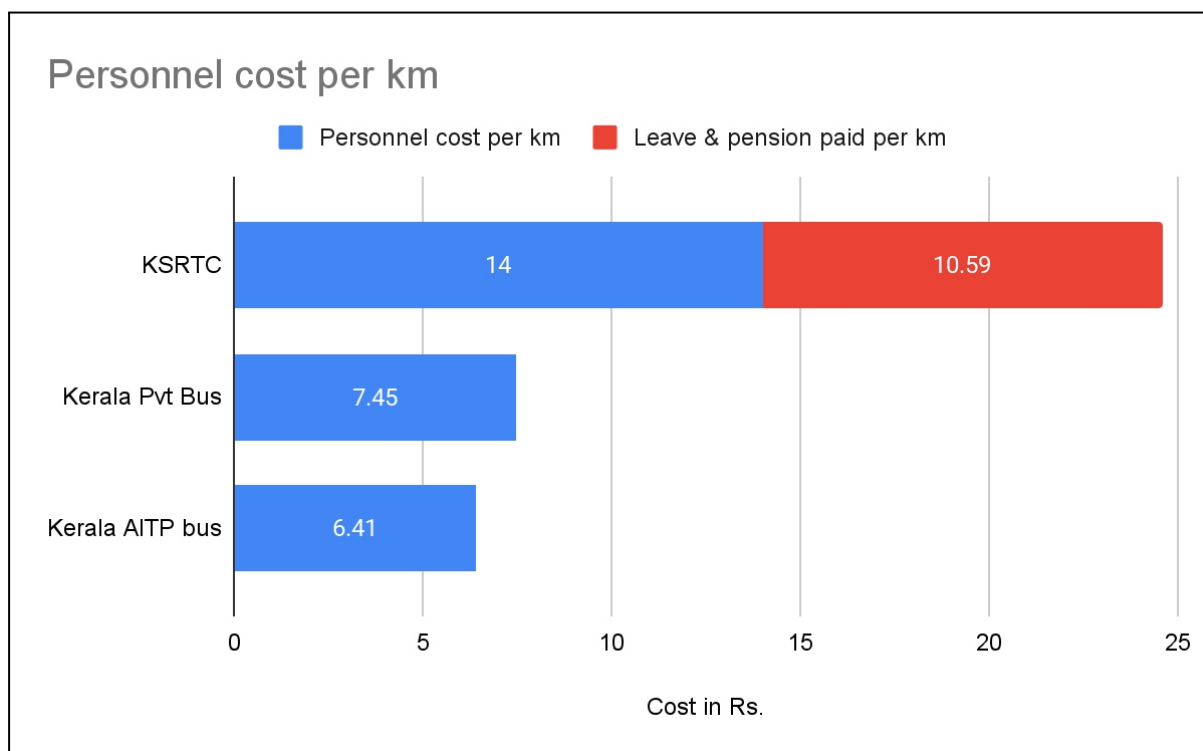
For private stage carriage services in Kerala, each bus typically employs one driver and one conductor. The daily wage is ₹1,200 for the driver and ₹1,000 for the conductor. In addition, operators contribute an average of ₹1,050 per month (₹35 per day) to the Kshema Nidhi fund. Based on a daily operation of 300 km, this amounts to an average personnel cost of ₹7.45 per kilometre for each bus.

For an AITP service operating an average of 800 km daily, each bus typically employs two drivers and two conductors. The daily wage for the driver is ₹1,500, while the conductor earns ₹1,000. In addition, a sanitation fee of ₹250 is paid to the cleaning staff every alternate day. When converted to a per-kilometre basis, this amounts to an average personnel cost of ₹6.41 per kilometre operated.

The significant difference in personnel cost per kilometre between KSRTC and private operators can be attributed to the higher number of employees per bus in KSRTC. According to the latest reports, each KSRTC bus corresponds to an average of 4.81 permanent employees⁷, in addition to several temporary staff. This, along with the recurring expenditure on pensions and paid leave, makes the personnel cost in KSRTC more than three times (see Graph 1) that of a private operator. Since the KSRTC data corresponds to the year 2016 and a pay revision was implemented in 2022, the current personnel cost incurred by the corporation is likely to be even higher.

⁷ <https://english.mathrubhumi.com/news/kerala/ksrtc-staff-reduction-boosts-revenue-w3vfjij5>

Graph 1: Personnel Cost per Kilometre for KSRTC, Private Bus, and AITP Bus



Source: Author (data collected from the field interviews with the operators)

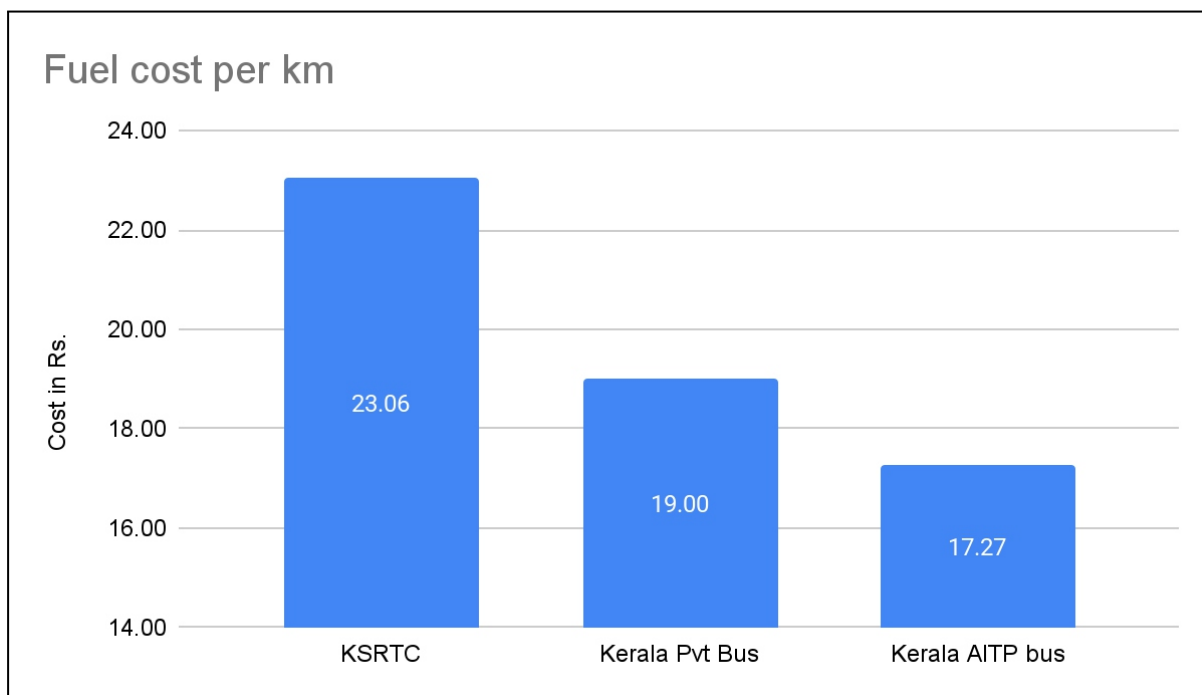
3.2 Fuel Cost

According to official data, KSRTC buses have an average mileage of about 4.12⁸ km per litre. Based on the current diesel price of ₹95 per litre, this amounts to ₹23.60 per kilometre. In comparison, private stage carriages record an average mileage of 5 km per litre, while AITP buses achieve around 5.5 km per litre. This translates to fuel costs of approximately ₹19 per kilometre for private operators and ₹17.27 per kilometre for AITP buses (see Graph 2). The lower mileage observed in KSRTC’s fleet can be attributed to the aging condition of its buses; as of 2024, nearly one-fourth of KSRTC’s buses were over 15 years old⁹.

⁸ <https://www.thehindu.com/news/national/kerala/ksrtc-rolls-out-plan-to-increase-fuel-efficiency/article26475787.ece>

⁹ <https://www.thehindu.com/news/national/kerala/1194-ksrtc-buses-are-over-15-years-old-only-2300-have-insurance-cover/article68962241.ece>

Graph 2: Fuel Cost per Kilometre for KSRTC, Private Bus, and AITP Bus

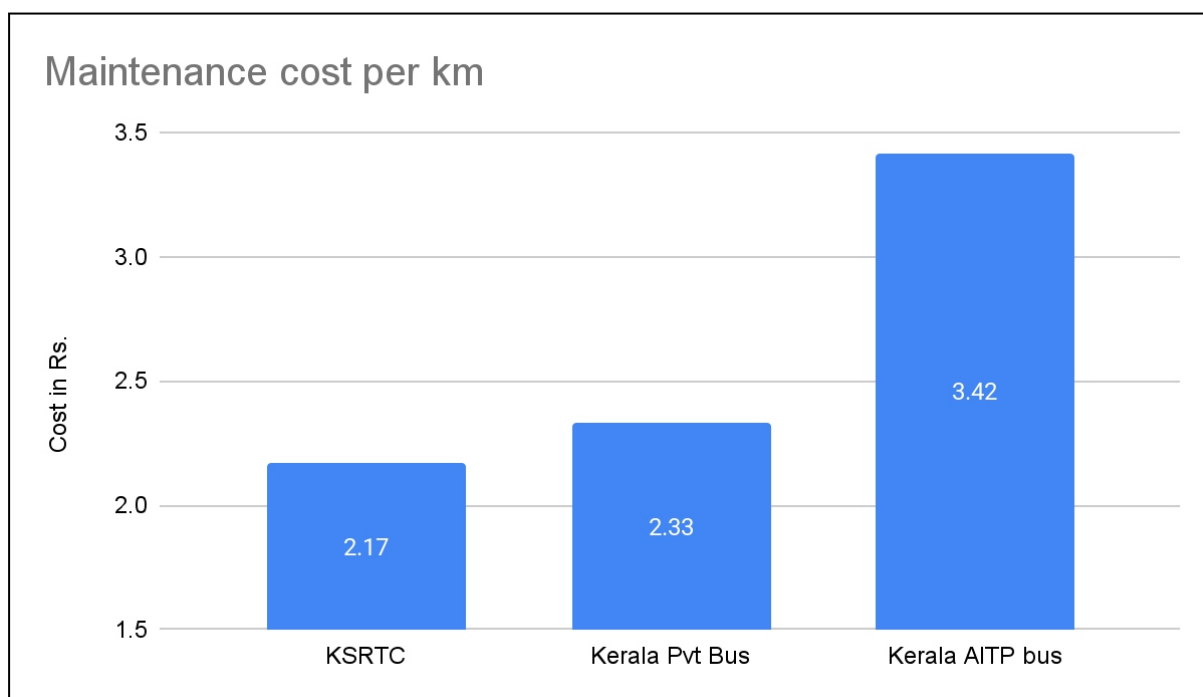


Source: Author (data collected from the field interviews with the operators)

3.3 Maintenance Cost

As per published data, KSRTC spent ₹119.2 crore in 2016 on bus maintenance, which corresponds to ₹2.17 per kilometre. For private stage carriage operators, the average annual maintenance cost is around 10% of the bus’s value, or about ₹700 per day. This translates to about ₹2.33 per kilometre. For AITP buses, the annual maintenance cost averages around 20% of the vehicle’s value. For a bus costing ₹50 lakh, this amounts to roughly ₹10 lakh per year, or ₹3.42 per kilometre (see Graph 3). The higher maintenance cost for AITP buses is expected, as these are luxury vehicles designed to provide premium services.

Graph 3: Maintenance Cost per Kilometre for KSRTC, Private Bus, and AITP Bus



Source: Author (data collected from the field interviews with the operators)

3.4 Cost Incurred by Operators for Tax, Insurance, and Permit

3.4.1 Tax

According to the Government Order *G.O.(P) No. 9/2022/TRANS*, the Government of Kerala has exempted KSRTC from paying motor vehicle tax, effectively reducing its tax expenditure to zero (for five years). In contrast, private stage carriage operators pay approximately ₹1.2 lakh annually as motor vehicle tax, and AITP bus operators pay around ₹2.4 lakh per year. On a per kilometre basis, this amounts to ₹1.10 per kilometre for private stage carriages and ₹0.82 per kilometre for AITP buses.

3.4.2 Insurance

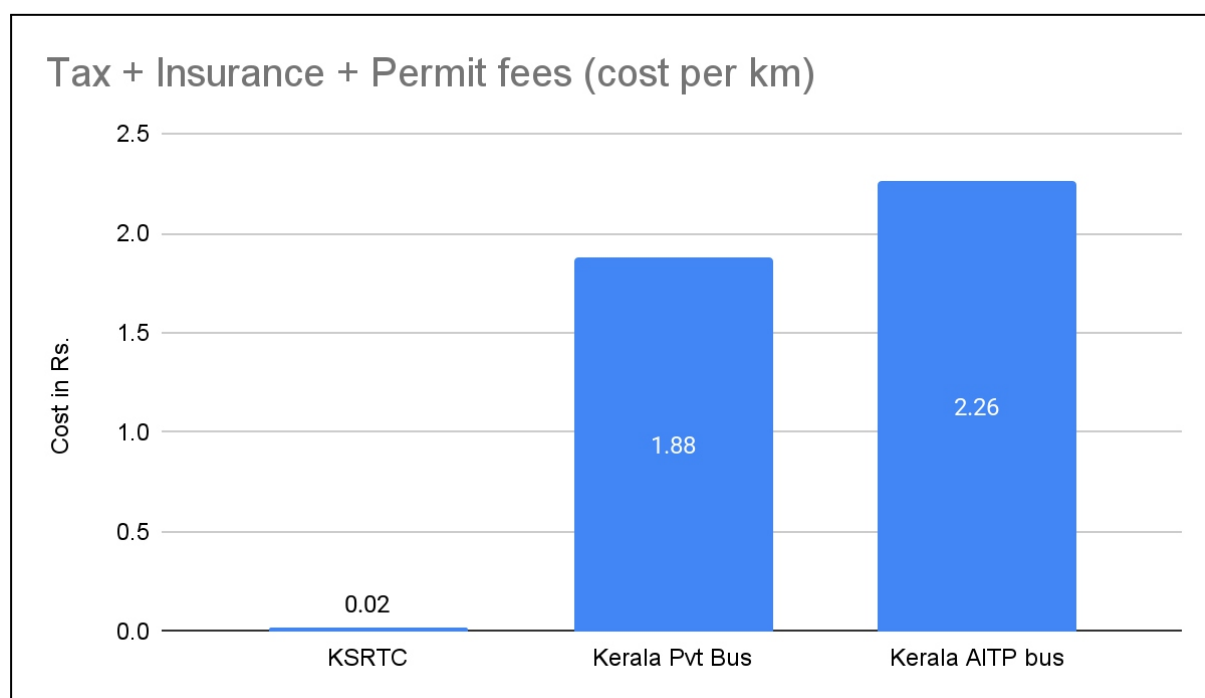
As per the latest officially published data, KSRTC’s expenditure on insurance was ₹1.13 crore in 2016, which amounts to ₹0.02 per kilometre. For private stage carriage operators, the annual insurance premium for a bus is around ₹85,000, translating to approximately ₹0.78 per kilometre. In the case of AITP buses, the yearly insurance premium is about ₹1.2 lakh, which corresponds to ₹0.41 per kilometre.

3.4.3 Permit fees

Similar to the exemption on motor vehicle tax, KSRTC is also exempted from paying permit fees to the state, reducing its permit cost to zero. Private stage carriage operators pay an annual permit fee of ₹4,990, which translates to approximately ₹0.01 per kilometre. In the case of AITP buses, the annual permit fee is around ₹3 lakh for a 40-seater bus, amounting to ₹1.03 per kilometre.

The cost incurred by KSRTC under these three heads—tax, insurance, and permit—is negligible compared to that of private and AITP operators (see Graph 4), indicating that these services do not operate on a level playing field. Moreover, KSRTC’s lower insurance expenditure can be attributed to two key factors: first, most KSRTC buses are covered only under third-party insurance, and second, there have been several instances of buses operating without any insurance coverage. This not only exposes passengers to risk but also increases the liability of the State Government in the event of accidents.

Graph 4: Tax, Insurance, and Permit Fees (Cost per Kilometre) for KSRTC, Private Bus, and AITP Bus



Source: Author (data collected from the field interviews with the operators)

3.5 Depreciation

Depreciation is calculated based on the cost of the vehicle and the total distance it covers over its useful life of eight years, as prescribed by the *Companies Act, 2013*. The useful life

refers to the period during which an asset—in this case, a bus—is expected to remain operational.

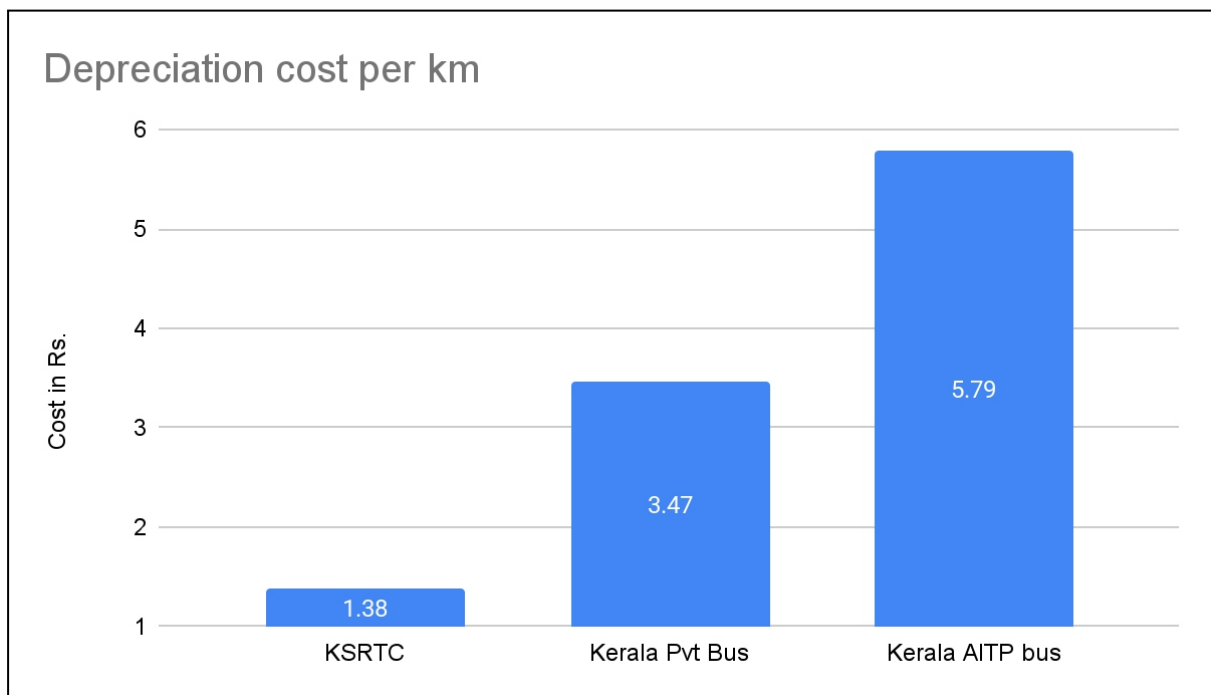
The depreciation is calculated as:

$$\text{Depreciation} = P/[M * 12 \text{ months} * 8 \text{ years}]$$

Where 'P' is the price of bus and 'M' is the monthly usage of bus in km.

As per official data, KSRTC incurred a depreciation expense of ₹75.76 crore, which amounts to ₹1.38 per kilometre. For a bus costing ₹30 lakh, the depreciation for a private stage carriage is calculated at ₹3.47 per kilometre, whereas for an AITP bus costing ₹50 lakh, it is estimated at ₹5.79 per kilometre. The comparatively lower depreciation of KSRTC buses (see Graph 5) can be attributed to their higher average age; the older the buses, the lower the depreciation cost.

Graph 5: Depreciation Cost per Kilometre for KSRTC, Private Bus, and AITP Bus



Source: Author (data collected from the field interviews with the operators)

3.6 Other Costs

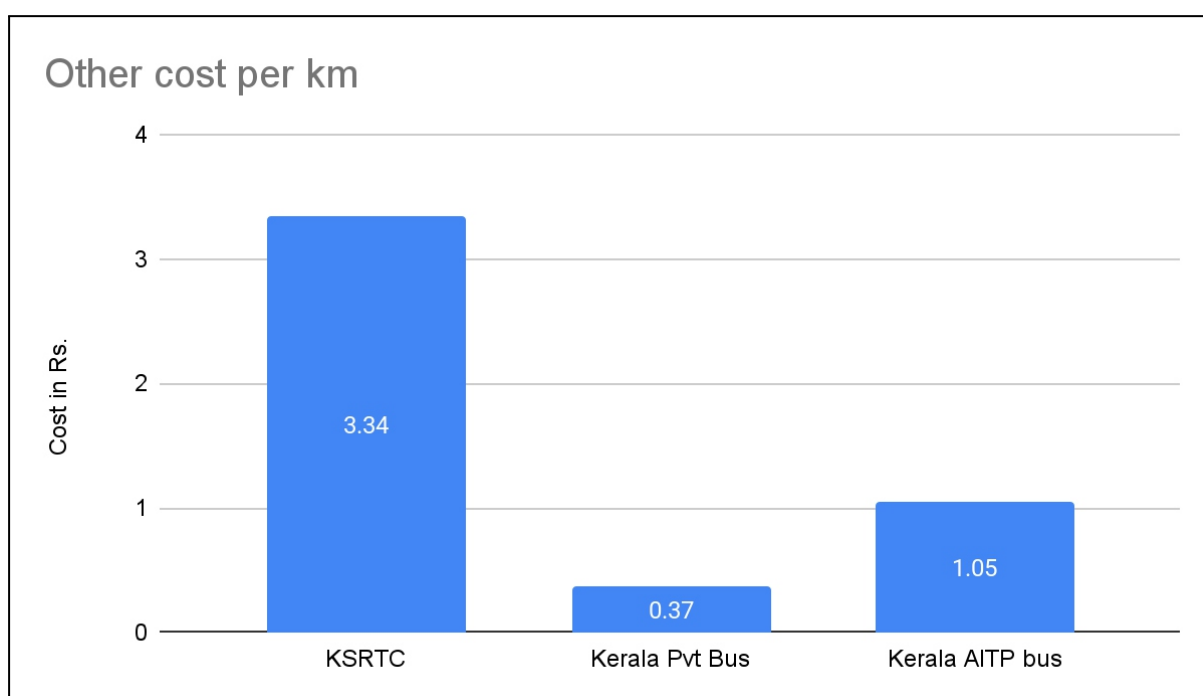
The “other costs” in KSRTC include several categories of expenditure:

- General and Administrative Expenses
- Traffic Expenses (such as tickets and passes, stationery, and traffic uniforms)

- Other Maintenance Expenses (including maintenance uniforms, electricity, and water charges)
- Miscellaneous Expenses (covering general uniforms, telephone charges, legal expenses, audit fees, advertisement costs, accident compensation, etc.)

As per official data, in 2016 KSRTC spent ₹183.47 crore under these categories, which amounts to ₹3.34 per kilometre. In contrast, the “other expenses” for private stage carriage operators mainly include penalties and fines, averaging about ₹40,000 annually, or ₹0.37 per kilometre. For AITP buses, these costs include branding charges and toll fees, averaging ₹850 per day, or ₹1.05 per kilometre.

Graph 6: Other Costs per Kilometre for KSRTC, Private Bus, and AITP Bus



Source: Author (data collected from the field interviews with the operators)

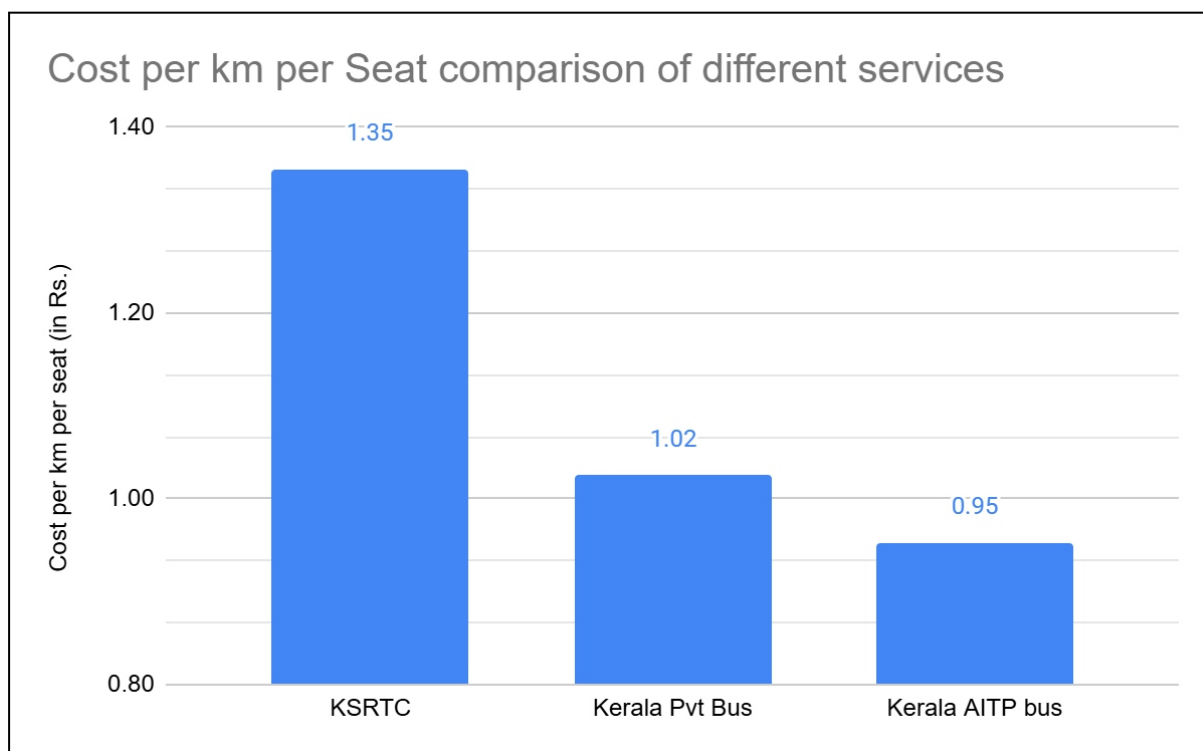
4. Total Cost of Operations (per Kilometre per Seat)

Since seating capacity varies across operators, it is more appropriate to calculate the operational cost per kilometre per seat to ensure a fair and accurate comparison. Based on these calculations, it was found that KSRTC’s operational cost is significantly higher compared to private stage carriages and AITP buses. While KSRTC incurred ₹1.35 to operate 1 km per seat, the corresponding cost for private stage carriages was ₹1.02 per kilometre per seat, and for AITP buses it was even lower at ₹0.95 per kilometre per seat

(see Graph 7). In comparison, KSRTC is incurring 42.11% more operational cost than AITP buses and 32.35% higher than ordinary private stage carriage buses.

In other words, with ₹100 per seat, KSRTC operates 74 km, private stage carriages operate 98 km, and AITP operators operate 105 km.

Graph 7: Total Cost of Operations per Kilometre per Seat for KSRTC, Private Bus, and AITP Bus



Source: Author (data collected from the field interviews with the operators)

5. Way Forward

The findings of this study underline a fundamental imbalance in Kerala’s public transport ecosystem. KSRTC continues to operate with significantly higher per-kilometre costs compared to private stage carriage and AITP operators. This cost disparity reflects not merely differences in fuel efficiency or staff size but deeper structural and regulatory inefficiencies. The decline of stage carriage services due to regulatory barriers and the emergence of AITP services driven by operational flexibility and lower per-kilometre costs, signals a growing shift in market preference – one that will have significant implications for the state’s transportation system and budget.

Rather than viewing AITP services as competition, the state can treat them as a model for reform. Kerala’s bus sector, which once symbolised inclusivity and entrepreneurship,

requires rejuvenation through modernisation and policy realignment. The way forward must focus on enhancing efficiency, promoting fair competition, and improving passenger experience through institutional and operational reforms.

5.1 Key Policy Directions

- **Simplify the Stage Carriage Permit System:** Streamline the permit issuance process by reducing administrative hurdles and shifting to transparent, time-bound online procedures.
- **Revisit Route Nationalisation:** Gradually move toward a regulated-competition framework that allows private participation in select long-route and intercity services while ensuring service standards and safety compliance.
- **Encourage Innovation and Service Differentiation:** Establish a clear regulatory mechanism that allows operators to experiment with new models—such as semi-luxury, express, or demand-responsive bus services—under defined performance benchmarks.
- **Rationalise Workforce and Asset Utilisation in KSRTC:** Introduce reforms in staffing, scheduling, and fleet modernisation to enhance productivity and reduce fixed costs.
- **Create a Level Playing Field:** Align tax, insurance, and permit structures so that both state-run and private operators function under equitable conditions, promoting efficiency rather than dependency on subsidies.

Kerala's transport system has long been a symbol of connectivity and social mobility. To preserve this role in a changing mobility landscape, reforms must aim to balance public accountability with operational efficiency. Strengthening KSRTC through rationalisation, empowering private participation, and integrating modern service models like AITP can together create a sustainable, competitive, and commuter-focused public transport system for the state.

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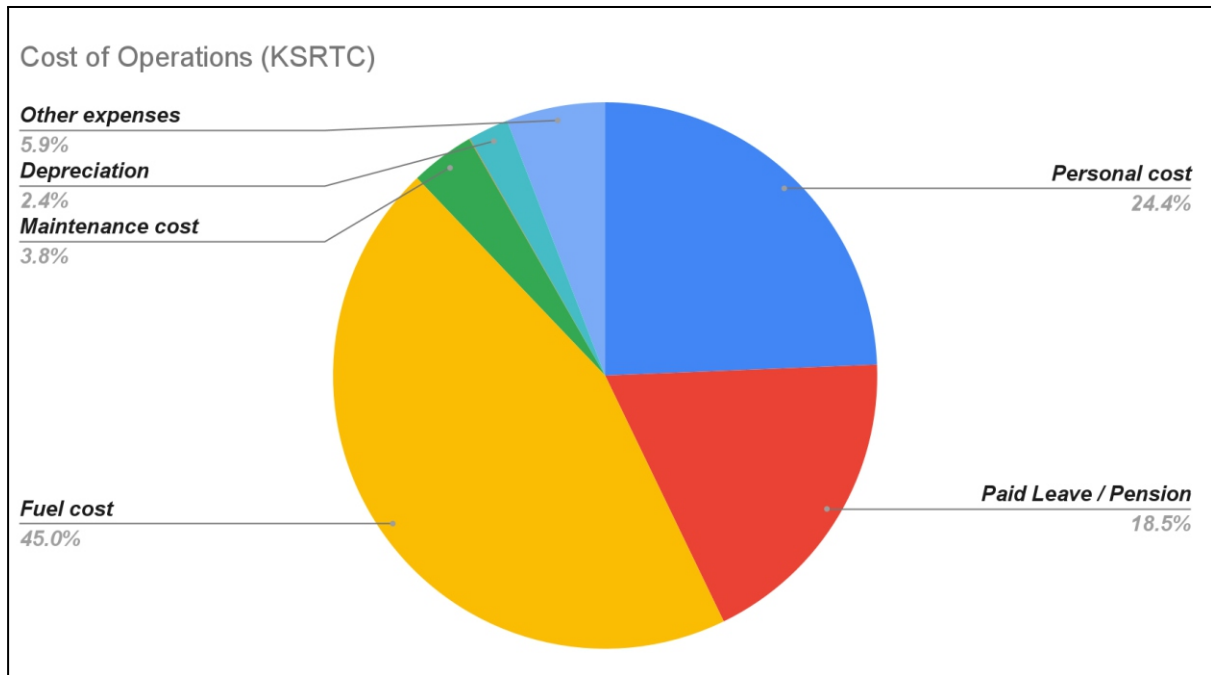
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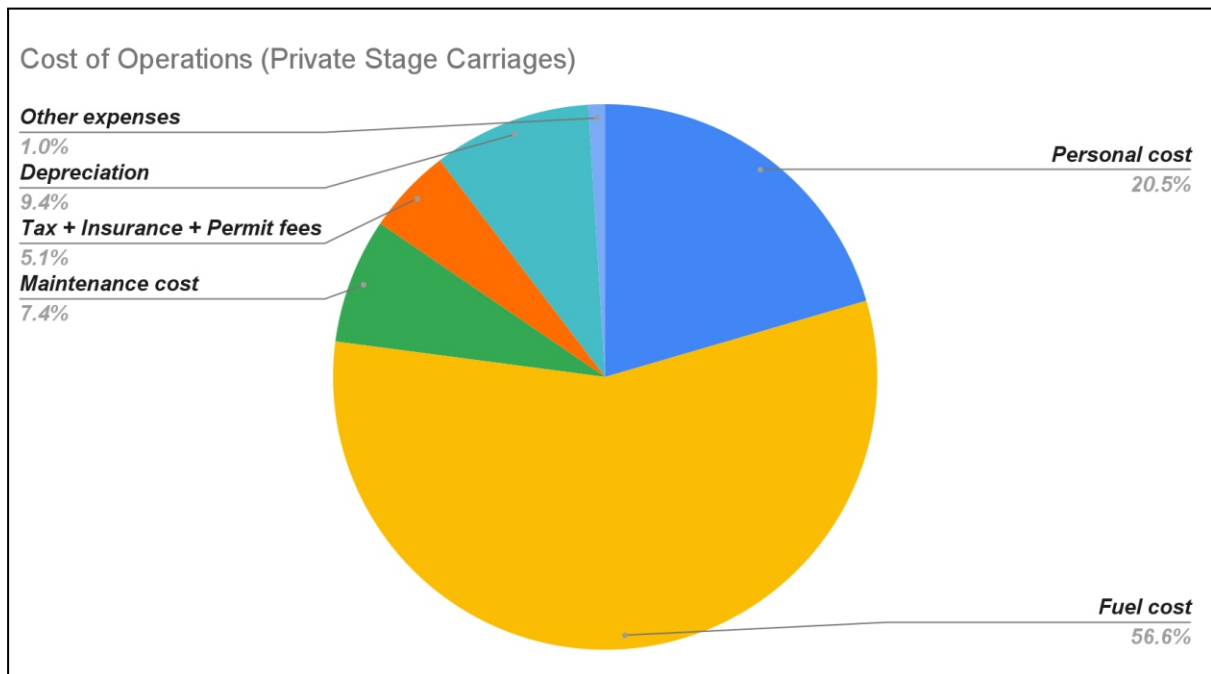
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Annexure 1

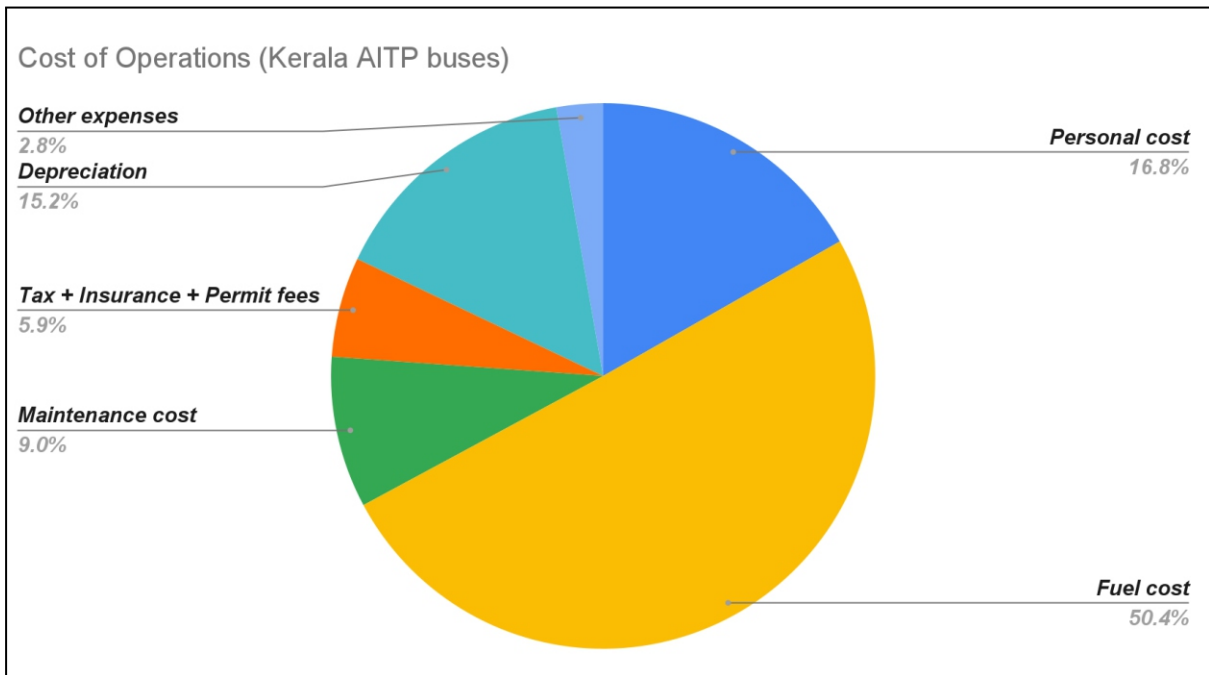
Graph 8: Split-up of Cost of Operations in KSRTC



Graph 9: Split-up of Cost of Operations in Private Stage Carriages



Graph 10: Split-up of Cost of Operations in AITP Buses





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