

政策提言・技術仕様書 (改訂版: 英文先行・和文後置)

POLICY RECOMMENDATION & TECHNICAL SPECIFICATION V3

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PART 1: ENGLISH VERSION (WITH JAPANESE POLICY CONTEXT ANNOTATIONS)

Technical & Policy Proposal V3: Creating All-Generational Social Infrastructure & Regional Economic Circulation System via Next-Generation "City Car"

Quantitative alignment on free/low-cost deployment via sovereign government bond issuance based on Modern Monetary Theory (MMT), revitalization of existing public transit, social security cost reduction, and consumer spending creation

1. Introduction & Overall Concept (Innovation for All Generations)

This proposal outlines a comprehensive economic, transportation, and welfare policy to implement the "City car"—an autonomous mobility platform integrated with living infrastructure—and the "City HUB"—which fully automates water supply, drainage, and charging—as foundational infrastructure for all generations. This system is deployed by leveraging the national fiscal capacity to issue sovereign-currency-denominated government bonds within the framework of Modern Monetary Theory (MMT).

This initiative extends far beyond conventional "welfare support" tailored solely for vulnerable groups. It represents an all-generational mobility solution that dramatically enhances daily transit, commuting, school travel, late-night returns, and post-drinking transport for working adults, youth, parents, and the elderly. Crucially, rather than competing with or replacing existing public transportation (such as passenger railways and route buses), the City car complements the "last mile". By bridging connection gaps for citizens who previously lacked access to stations or bus stops, it drives passenger volume to existing transit networks and triggers a robust economic circulation within local communities.

Japanese Policy Context & Annotation (1. Introduction):

In Japan, rapid demographic aging combined with a declining population in suburban and rural areas has led to severe transit deficiencies (the "shopping desert" and mobility poverty problems). Furthermore, local public transport operators (e.g., regional JR lines and municipal bus routes) face financial insolvency due to declining ridership. The concept addresses both issues simultaneously by using MMT-backed fiscal policy (leveraging Japan's sovereign currency capacity in JPY) to resolve mobility loss without imposing immediate tax hikes.

2. Core Technical & Hardware Specifications and Multi-Generational Use Cases

The "City car" serves as a multi-functional micro-dwelling and mobility platform equipped with living, transport, communication, and AI partnership features.

2.1 Multi-Generational Operational Scenarios (Working Class, Youth & Families)

- **Commuting, School Transit & Automated Station Shuttle System:** During morning rush hours, users drive (or operate in low-speed autonomous mode) from home to the railway station. Upon arrival, the passenger disembarks, and the City car autonomously returns to the user's home, designated parking lot, or City HUB at low speed (6 km/h). For late-night returns, overtime work, or after social drinking, the vehicle automatically arrives at specified times in front of stations or restaurants, eliminating risks associated with missed last trains, taxi shortages, and drunk driving.
- **Seamless Integration with Existing Public Transit (Railways & Route Buses):** Provides smooth first/last-mile feeder connections from underserved regions lacking bus routes to primary train stations and bus hubs. This significantly increases overall public transit passenger volumes and stabilizes the operational foundations of existing transport enterprises.
- **Fully Automated Wheelchair, Slope Integration & Stroller Compatibility:** Under the supervision of onboard safety AI, an electric ramp automatically deploys, allowing seamless loading and unloading of wheelchairs, medical beds, heavy cargo, baby strollers, bicycles, and e-scooters.
- **Hygiene & Independent Living Support Unit:** Standard equipment includes an odor-suppressing, self-contained circulation flush toilet (with integrated robotic bidet/washlet) and a multi-functional bed, ensuring comfort during long-distance drives, late-night stays, or emergencies.
- **AI "My Avatar" Life & Work Assistance:**
 - *Daily Dialogue, Telework & Educational Support:* An onboard AI "My Avatar"—customized to user preferences (resembling a parent, partner, or friend)—serves as a continuous companion. It handles health monitoring, telework phone calls, appointment scheduling, and personalized academic tutoring for entrance exams and professional certifications.
 - *Global Communication & Self-Expression:* The avatar provides real-time multi-lingual translation and projects a digitally enhanced, youthful visual identity on display interfaces, enabling secure global social interactions.
- **Elimination of Caregiving & Childcare Burdens:** For families with dementia patients or disabled children, the AI My Avatar maintains engaging interactions and transports them to desired destinations, effectively reducing the care burden on young caregivers and elderly family members to zero.
- **End-of-Life (Ending) Care:** Provides compassionate, gentle interaction tailored to early childhood memories during life's final stages, ensuring dignified terminal care.
- **Support for Short/Medium-Term Construction Sites & Vulnerable Groups:**
 - *Construction Sites & Event Venues:* Serves as an air-conditioned rest area, sleeping unit, and sanitary facility on temporary sites, eliminating the need to erect temporary restrooms and reducing construction overhead.
 - *Poverty Relief & Homeless Assistance:* Supplying City cars guarantees a clean, climate-controlled

living space with sanitary infrastructure and AI emotional support for impoverished individuals.

Japanese Policy Context & Annotation (2.1 Use Cases):

- **Young Caregiver & Elderly Care:** Japan faces acute social problems where minors care for elderly relatives or elderly spouses care for each other due to caregiver shortages. The AI My Avatar and automated transit relieve families of this burden.

- **Drunk Driving & Late-Night Commute:** Japan enforces a strict zero-tolerance policy for drink-driving (0.00% BAC threshold). Automated station pickup completely eliminates alcohol-related driving offenses and reduces late-night taxi shortages in suburban cities.

2.2 Phased Evolutionary Speed Evolution (From 6 km/h to 20–30 km/h)

Initial deployment utilizes manual driving combined with a 6 km/h low-speed autonomous mode, where drive authorization is issued via real-time bidirectional communication between municipal police AI servers and onboard AI. Subsequent phases will integrate multi-sensor data and camera-based computer vision AI analysis to incrementally increase operating speeds to 20–30 km/h while guaranteeing absolute safety standards.

Japanese Legal & Regulatory Context (2.2 Autonomous Driving):

Under Japan's Revised Road Traffic Act, low-speed autonomous vehicles operating under 6 km/h are classified similarly to pedestrians/mobility scooters, bypassing complex Level 4 autonomous vehicle licensing restrictions. The proposed integration with police central traffic systems ensures compliance with Japanese National Police Agency regulations.

2.3 "City HUB" Circular Infrastructure & Global Maritime Ferry Integration

The "City HUB" is equipped with high-efficiency 3D solar arrays (City Sola) and Atmospheric Water Generators (AWG). It establishes automated self-aligning physical links for water replenishment, waste drainage, and ultra-fast EV charging. Furthermore, adopting standardized City HUB interfaces on international maritime ferries allows users to undertake seamless global travel inside their City car units, creating a major international tourism sector.

3. MMT Financing Framework & Free / Low-Cost Distribution Scheme

Capital expenses for initial procurement and hub infrastructure installation are financed through government bond issuance (sovereign currency creation) guided by MMT principles, where national inflation rate serves as the sole operational constraint. Sovereign-currency-denominated bonds fund the direct purchase and free distribution (or ultra-low-cost subscription) of City cars to households and vulnerable citizens.

[Justification of MMT Fiscal Allocation]

Because the City car initiative enhances national labor productivity, drastically curbs healthcare and nursing care expenditures, eliminates caregiving-induced career disruption, and stimulates local commercial spending and transit revenues, it operates as a high-yield national investment. Consequently,

it absorbs and offsets potential inflationary pressures over the long term.

Japanese Economic & Fiscal Context (3. MMT Financing):

Japan issues national government bonds (JGBs) denominated in Japanese Yen (JPY), its sovereign fiat currency. As a net creditor nation with low domestic inflation history, MMT advocates argue Japan has substantial fiscal space to issue JGBs for productive physical assets (like nation-wide automated mobility) without triggering hyperinflation.

4. Structural Reform of Care Facilities & Reduction of Social Insurance Premiums

4.1 Shift from Institutional Care to Mobile Autonomous Living

Transitioning from static facility construction (e.g., Special Nursing Homes for the Elderly / Tokuyou) and heavy staffing overhead toward self-contained mobile platforms dramatically reduces national social security spending.

4.2 Enhancement of Working-Class Disposable Income

By compressing municipal and national social security spending, statutory deductions for Long-Term Care Insurance and Health Insurance can be lowered. This directly increases take-home pay and net disposable income for working families.

Japanese Social Insurance Context (4.2 Disposable Income):

Japanese workers currently suffer from escalating "social insurance burden rates", which take over 47% of income via mandatory healthcare, pension, and long-term care deductions. Reducing institutional social welfare costs lowers these statutory payroll taxes, directly boosting net disposable income (手取り) for younger workers.

5. Regional Economic Revitalization & Return on Investment (ROI) Estimates

Providing safe, 24/7 mobility for all age groups increases foot traffic in local shopping districts (Shotengai), stimulates nightlife and event participation, increases train/bus usage, and boosts domestic/international ferry tourism.

Item / Indicator	Conventional Model (Annual / Person)	City Car Model (Annual / Person / Impact)
Institutional Care & Welfare Assistance Cost	Approx. ¥3.6M–¥4.8M JPY (Facility benefit + labor + housing support)	Approx. ¥0.6M JPY (City HUB maintenance + connectivity) Net Outlay Reduction: ¥3.0M – ¥4.2M JPY

Item / Indicator	Conventional Model (Annual / Person)	City Car Model (Annual / Person / Impact)
Consumption & Transit Activation Effect	Limited (Approx. ¥0.3M JPY/year)	Local retail, night dining, train/bus transit & ferry travel Over ¥1.2M JPY/year (+¥0.9M JPY net direct spending)
Working-Class Productivity Gain	Restricted by caregiving duty, child pickup & last-train limits	Automated shuttle & automated caregiving enable 100% employment capacity Net Productivity Gain: +¥2.0M JPY / Household

Payback Evaluation: Assuming a manufacturing and infrastructure deployment cost of ¥5.0 million JPY per unit (at mass production scale), combining the social security savings (>¥3.0 million JPY/year) and increased consumption/tax revenue (>¥0.9 million JPY/year) yields full capital payback within 1.5 to 2.0 years. Subsequent operational years generate permanent fiscal improvements and sustained economic circulation across all generations.

Japanese Financial Context (5. Cost Calculation):

- ¥5.0M JPY is approximately \$33,000 USD, comparable to the cost of a standard compact electric vehicle in Japan.
- Special Nursing Home care (特別養護老人ホーム) in Japan costs the government approximately ¥300,000–¥400,000 JPY per month per resident in public subsidies, confirming the substantial cost savings achievable through autonomous mobile living units.

6. Conclusion

This initiative represents an "All-Generational Infrastructure Transformation" that transcends traditional social welfare frameworks. By eliminating commuting and caregiving friction for the workforce, integrating perfectly with existing rail and bus networks, eradicating isolation through AI companions, and drastically cutting public welfare expenditures, the proposal establishes a sustainable, prosperous economic future for all citizens.

PART 2: 日本語版 (JAPANESE VERSION)

次世代モビリティ「City car」を活用した全世代型社会インフラ創出と地

域経済循環システムに関する技術・政策構想書 V3

MMT(現代貨幣理論)に基づく国債発行を通じた無償・廉価普及と、既存公共交通の活性化・社会保障費削減・消費創出の定量的整合性試算

1. 序論・構想の全体像(全世代にとっての革新性)

本構想は、自律走行・生活インフラ一体型車両「City car」および給排水・充電を完全自動化する「City HUB」を全世代共通の基幹インフラとして社会実装し、自国通貨建て国債の発行余活用する現代貨幣理論 (MMT) の枠組みを用いて普及させる総合経済・交通・福祉政策である。

本システムは単なる「福祉用途(社会的弱者向け)」にとどまらない。現役世代・若者・子育て世代・高齢者に至るまで、すべての市民の移動・通勤・通学・夜間帰宅・飲酒後の移動における利便性を劇的に向上させる全世代型モビリティである。さらに、鉄道・バス等の既存公共交通機関と競合・駆逐するのではなく、既存交通機関の「ラストワンマイル」を補完することで、これまで駅やバス停にアクセスできなかった人々の移動を可能にし、既存交通システムの利用率と地域経済を同時に爆発的に活性化させることを最大の目的とする。

2. コア技術・ハードウェア仕様および全世代型ユースケース

「City car」は、居住・移動・通信・AIパートナー機能を完備した全世代向け多機能マイクロ住居兼モビリティプラットフォームである。

2.1 現役世代・若者・子育て世代を含む全世代での活用シナリオ

- **通勤・通学および「駅までの低速自動送迎・回送」システム:** 朝の通勤時、自宅から駅まで自身で運転(または低速自動運転)し、駅到着後はユーザーが降車。City carは無人で低速自動運転 (6km/h) により自宅または指定駐車場・City HUBへと自動で戻る。帰宅時や飲み会・深夜の残業後には、指定時間に駅や飲食店の前まで自動で迎えに来るため、終電遅れやタクシー待ち、飲酒運転 Risk を全廃する。
- **既存公共交通機関(鉄道・路線バス等) との高度なマッチング:** これまでバス路線がなく駅まで行けなかった移動困難地域から、駅・バス停までのスムーズな接続 (ファースト/ラストワンマイルの補完) を実現する。これにより鉄道やバスの乗降客数が飛躍的に増加し、既存交通事業者の経営基盤を強固にする。
- **全自動車いす・スロープ連動・ベビーカー対応機構:** 車載AIの安全確認のもと電動スロープが自動展開し、車いすやベッドはもちろん、重い荷物やベビーカー、自転車・電動キックボードを積載して乗降が可能。
- **衛生・自立支援ユニット:** 匂いの発生を抑える自律循環型水洗トイレ (ロボットウォシュレット内蔵) および多機能ベッドを標準装備。長距離ドライブや深夜帰宅、緊急時にも車内で快適に過ごせる。
- **AIマイアバターによる全世代型生活・業務支援:**
 - 日常対話・テレワーク・教育支援: 母親・恋人・友人等、理想のイメージを持つ車載AI「マイアバター」が常に適切な対話相手となる。健康管理のみならず、テレワークの電話応対・アポ取り代

行、受験・資格勉強の個別に合わせた指導までをワンストップでこなす。

- グローバル交流と自己表現: マイアバターが外国語の通訳を行い、画面上には自身の顔を若い頃の姿や理想的に補正・整形したアバターとして表示できるため、世界中の人と安心してコミュニケーションが取れる。
- **介護・子育て負担の全廃:** 認知症の家族や障害を持つ子供がいても、AIマイアバターが会話を合わせ希望する場所へ連れて行くため、ヤングケアラーや老老介護等の家族負担をほぼゼロにする。
- **終末期(エンディング) ケア:** 人生の最期には、幼い頃の母親 (AIマイアバター) が優しく語りかけ、温もりの中で穏やかに看取ってくれる体制を提供する。
- **短中期工事現場・建設現場および貧困層支援:**
 - 工事現場・イベント会場: 期間が限られた現場で仮設トイレや宿泊所を設置することなく、City car自体が冷暖房完備の休憩所・仮眠所・トイレとして機能し、建設コストを大幅に削減。
 - 生活困窮者・ホームレス救済: City carを供給することで、一生涯冷暖房完備・清潔な衛生環境・AIマイアバターとの会話がある人間的な生活環境を全自動で保証する。

2.2 低速自動運転 (6km/h) から時速20~30km/hへの段階的進化

当初は手動運転と6km/hの低速自動運転モードとし、警察署の基幹AIと車載AIがリアルタイムで双方向通信を行って走行許可を発行する。将来的には、各種センサー情報に加え車載カメラ画像のAI解析判断を統合することで、安全性を維持したまま時速20~30km/h程度へのスムーズなスピードアップを実現する。

2.3 循環型共通インフラ「City HUB」とフェリー連携による世界旅行

「City HUB」は高効率立体ソーラー (City Sola) と大気水生成装置を備え、City carに対して給水・排水・急速充電を自動接続(自動調芯機構) で給排する。また、世界統一規格のCity HUBとフェリー航路を連携させることで、ユーザーはCity carに乗ったまま世界中を安全・快適に移動でき、「City carによるグローバル世界旅行」という巨大な観光需要を創出する。

3. MMT財源論と無償・廉価普及スキーム

本事業の初期導入費用およびインフラ整備費用は、インフレ率を唯一の制約条件とするMMTの理論に基づき、政府による国債発行(新規貨幣創出)を財源として充当する。自国通貨建て国債により全世代・要支援者へCity carを一括購入。無償給付(または超低価格サブスクリプション提供)する。

【MMT財源充当の妥当性】

本政策により供給されるCity carは、全世代の移動生産性を高め、社会保障費の縮減、介護離職の全廃、そして鉄道・バス等の既存インフラ活性化と地域消費・観光創出をもたらす「超高利回り国家投資」として機能するため、新規通貨発行に伴うインフレ圧力を長期的に完全に吸収・相殺する。

4. 福祉施設・交通インフラの構造改革と社会保険料低下メカニズム

4.1 施設依存から自律移動型生活への転換

特別養護老人ホームや障害者入所施設、住宅扶助に要していた莫大な施設建設・人件費をCity carによる

自己完結型プラットフォームへ移行させることで、社会保障費支出を劇的に削減する。

4.2 現役世代の可処分所得増大と手取りアップ

国および自治体の社会保障予算が大幅に圧縮される結果、急増を続けてきた介護保険料や健康保険料の徴収額を引き下げることが可能となり、現役世代の手取り (可処分所得)を直接的に増大させる。

5. 地域経済の活性化と投資対効果(回収性)の試算

24時間いつでも全世代が安全・快適に移動できる環境が整うことで、商店街への回遊、夜間の飲食・イベント参加、鉄道・バス等の公共交通利用、およびフェリーを活用した国内外旅行が劇的に増加する。

項目	従来モデル(年間コスト/1人)	City car導入モデル (年間コスト/1人/効果)
施設介護・生活保護コスト	約360万円～480万円 (施設給付+人件費+住宅扶助)	約60万円 (City HUBインフラ維持+通信費) 差引約300万～420万円の歳出削減
消費創出・交通活性化効果	限定的 (年約30万円)	商店街・夜間飲食・鉄道バス利用・世界旅行 年約120万円以上 (+約90万円以上の直接消費増加)
現役世代の生産性向上	送迎・介護負担・終電制限あり	自動送迎・介護無力化により100%就労&夜間経済活性化 +約200万円 (1世帯あたり生産性向上)

回収性の評価: City car 1台あたりの製造・インフラコストを仮に500万円 (量産効果適用時)と試算した場合、社会保障費削減効果(年300万円以上)と消費・税収増(年90万円以上)の合算により、導入後わずか1.5年～2年で投資回収(ペイ)が完了する。それ以降は恒久的な国家財政の改善と全世代型経済の活性化を生み出し続ける。

6. 結論

本構想は、福祉目的の域を遥かに超えた「全世代型インフラ改革」である。現役世代の通勤・送迎・夜間移動のストレスをゼロにし、既存の鉄道やバス等の公共交通システムと完璧にマッチングして地域経済を活性化させる。同時に、AIマイアバターによる孤独の撲滅や福祉コストの撲滅を達成し、持続可能で全員が豊かな社会を実現する。