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| Data Collection Layer |

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| Mobile App/USSD |-->| GPS Trackers |-->| Weather API |-->| Sensors | (Optional)

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| AI Prediction Engine |

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| Historical Data |-->| AI "Black Box" |-->| Waste Hotspots |

+-----------------+ | (Prediction Model) | +----------------+

| Real-time Data |-->+--------------------+-->| Volume Est. |

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| Routing Optimization Sys |

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| Waste Predictions |-->| Route Optimization |-->| Optimized Routes |

+--------------------+ | Algorithm/Map | +-----------------+

| Road Network Data |-->+---------------------+-->| Pickup Schedule |

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| Admin Dashboard |

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| Collected Waste Data|-->| Dashboard/Reports |

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| Route Data |-->| (Visualizations, KPIs) |

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