



Efficiency of Trolleybus Routes in Lviv



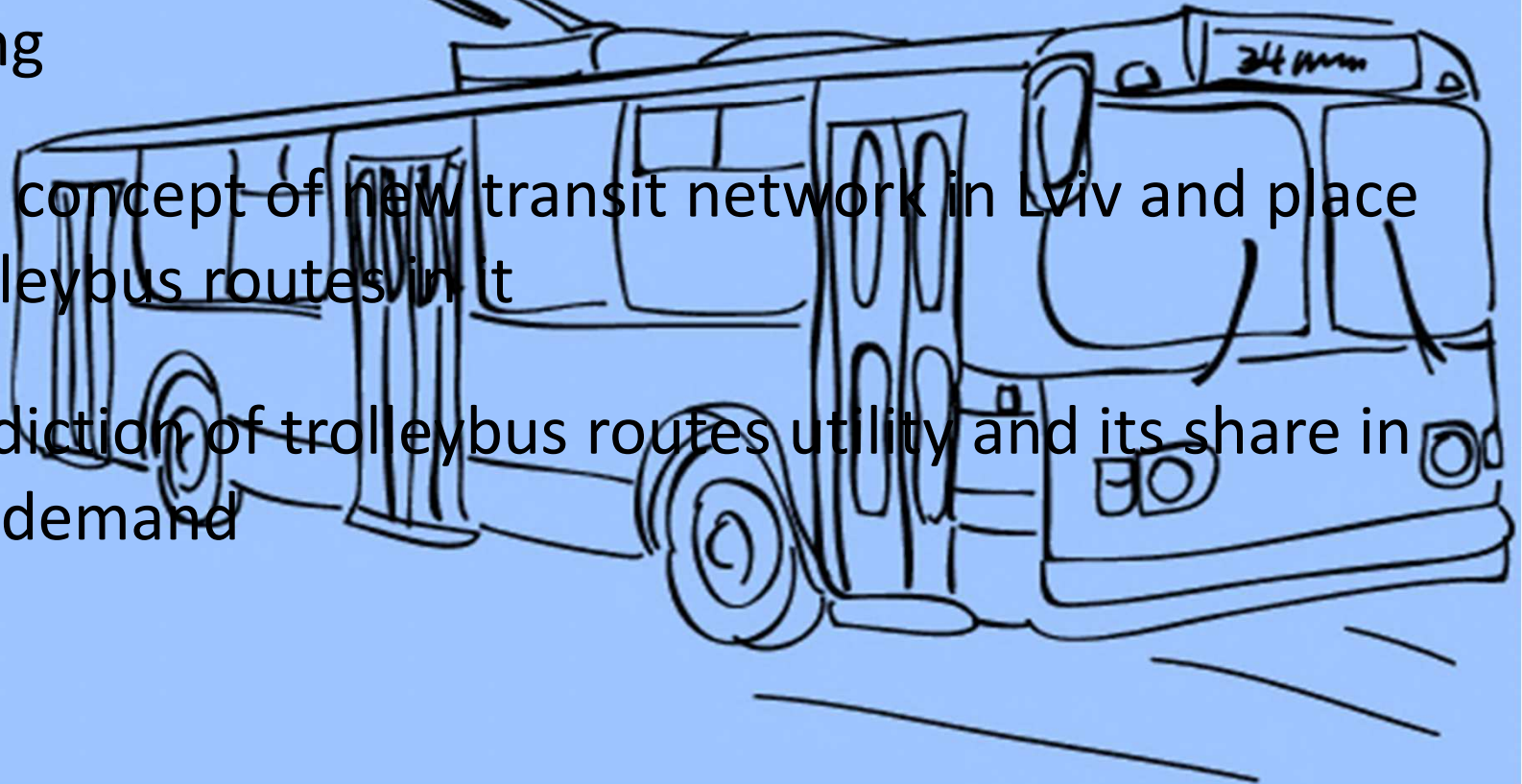
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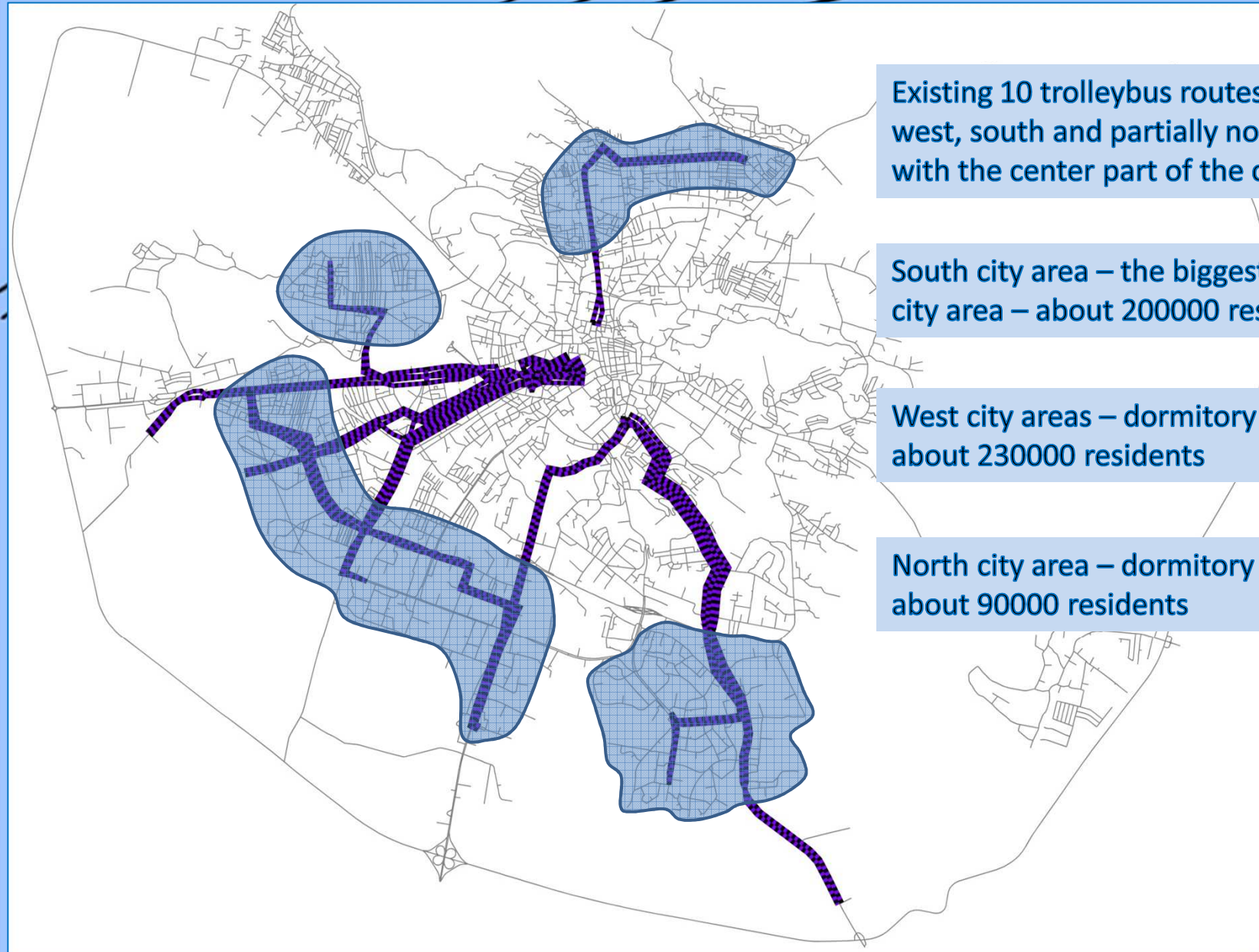
Structure of Presentation

1. Present conditions of trolleybus routes performance in Lviv
2. The main problems in efficient trolleybus routes running
3. The concept of new transit network in Lviv and place of trolleybus routes in it
4. Prediction of trolleybus routes utility and its share in travel demand





Present conditions of trolleybus routes performance in Lviv



Existing 10 trolleybus routes connect west, south and partially north areas with the center part of the city

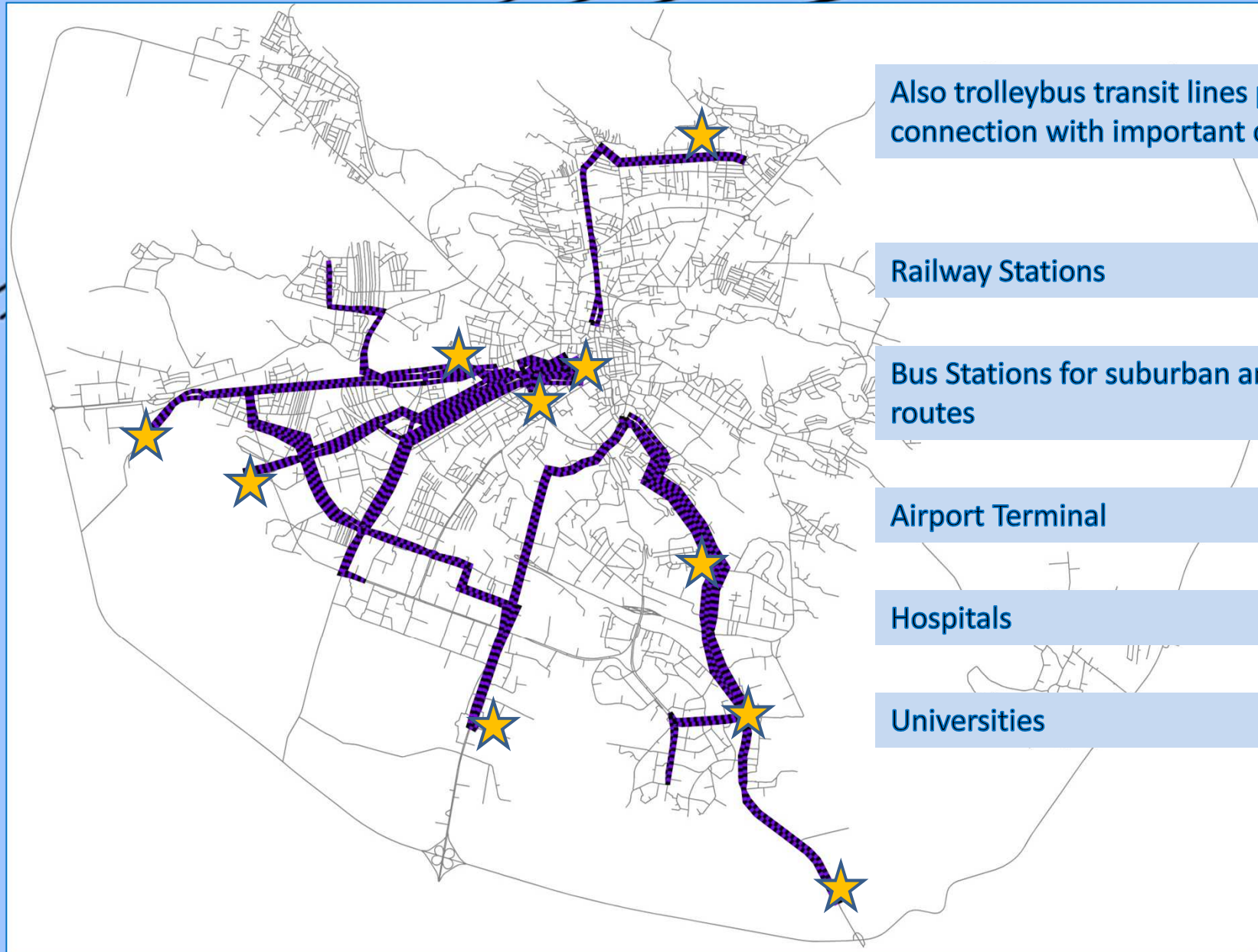
South city area – the biggest dormitory city area – about 200000 residents

West city areas – dormitory city areas – about 230000 residents

North city area – dormitory city area – about 90000 residents



Present conditions of trolleybus routes performance in Lviv



Also trolleybus transit lines provide connection with important city units:

Railway Stations

Bus Stations for suburban and intercity routes

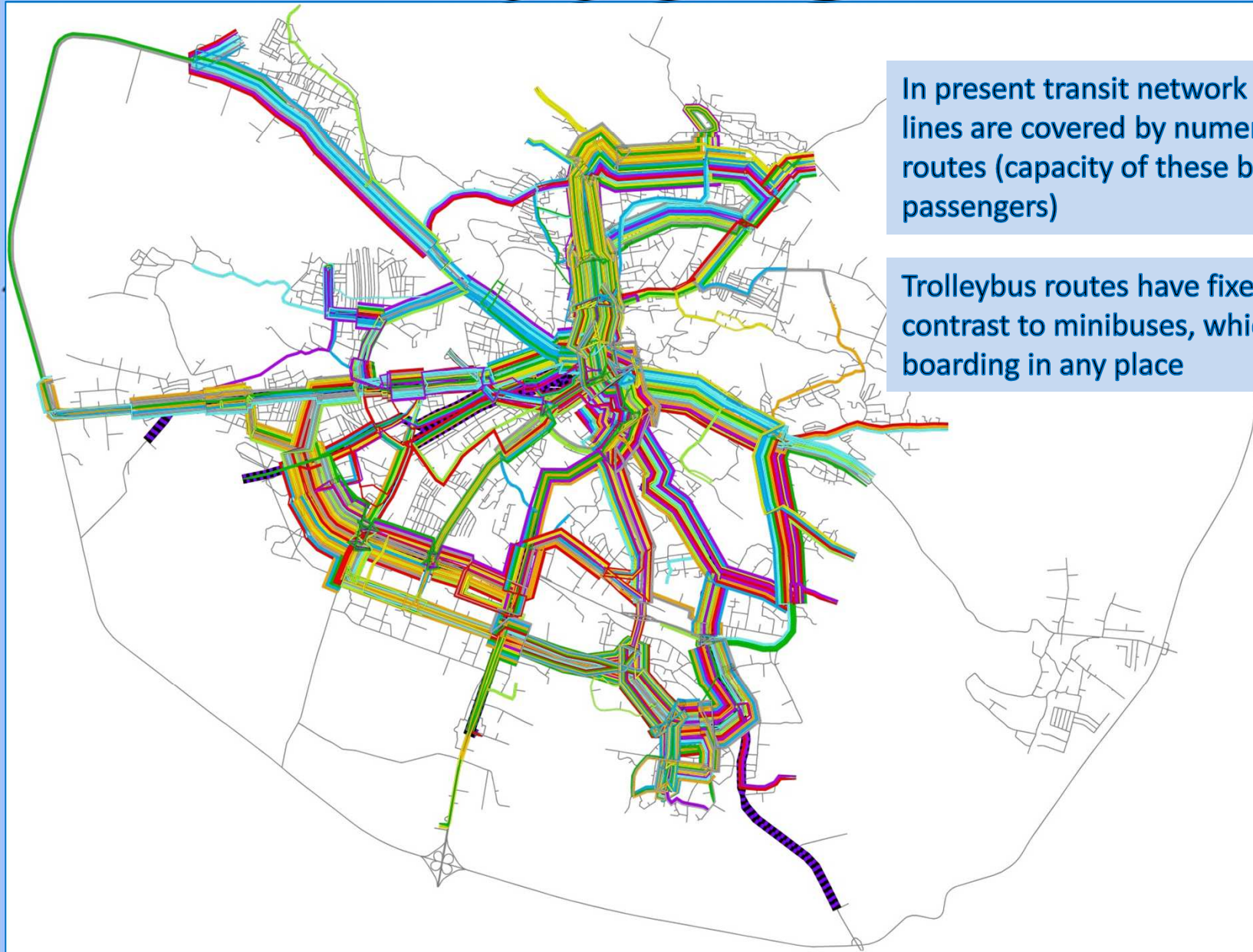
Airport Terminal

Hospitals

Universities

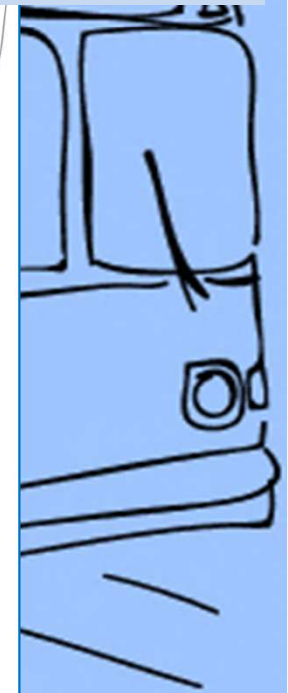


Present conditions of trolleybus routes performance in Lviv



In present transit network trolleybus lines are covered by numerous minibus routes (capacity of these bus about 45 passengers)

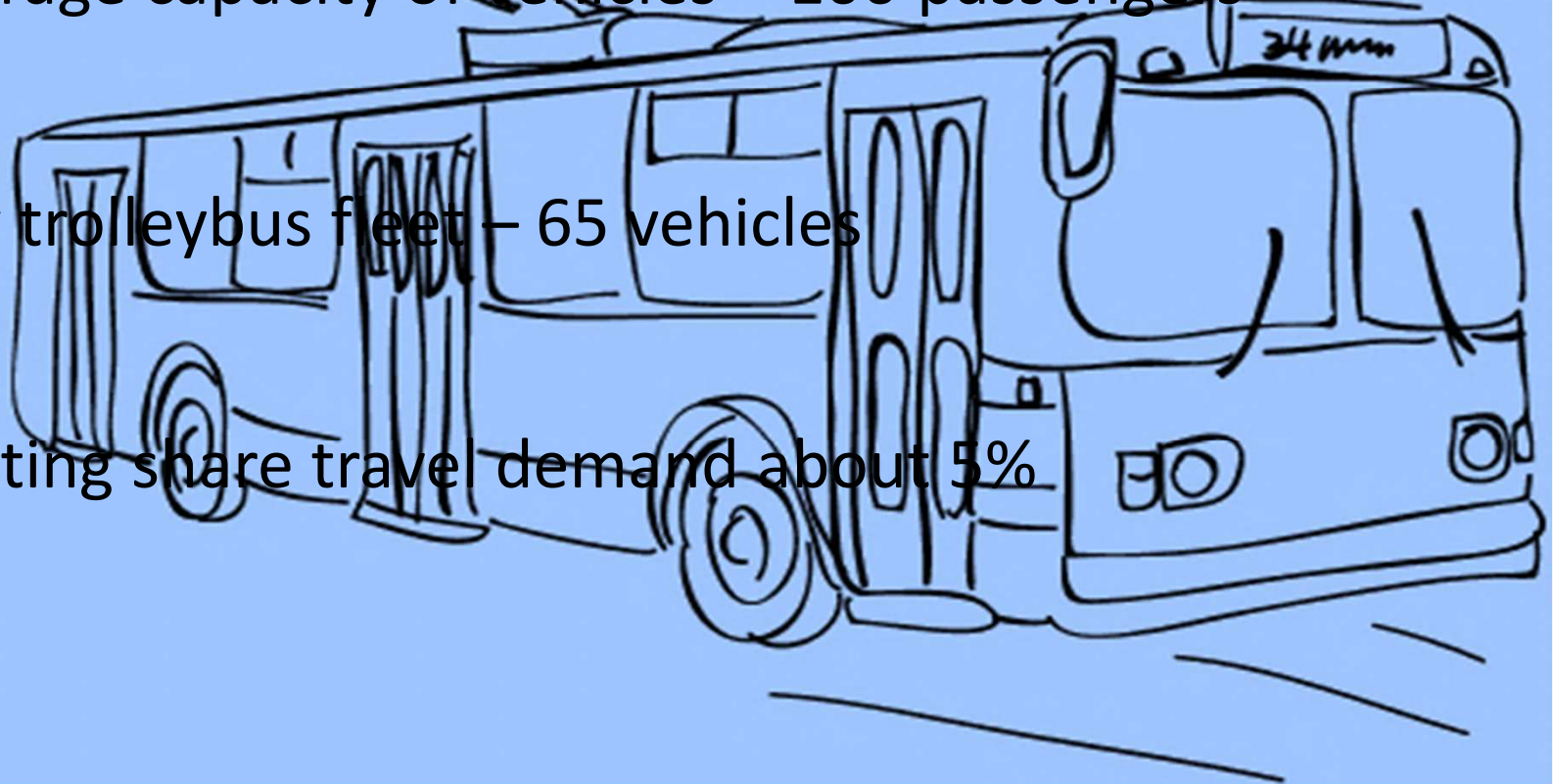
Trolleybus routes have fixed stops in contrast to minibuses, which make boarding in any place





Present conditions of trolleybus routes performance in Lviv

1. Actual service speed on trolley lines - 12-15 km/h
2. Average capacity of vehicles – 100 passengers
3. City trolleybus fleet – 65 vehicles
4. Existing share travel demand about 5%





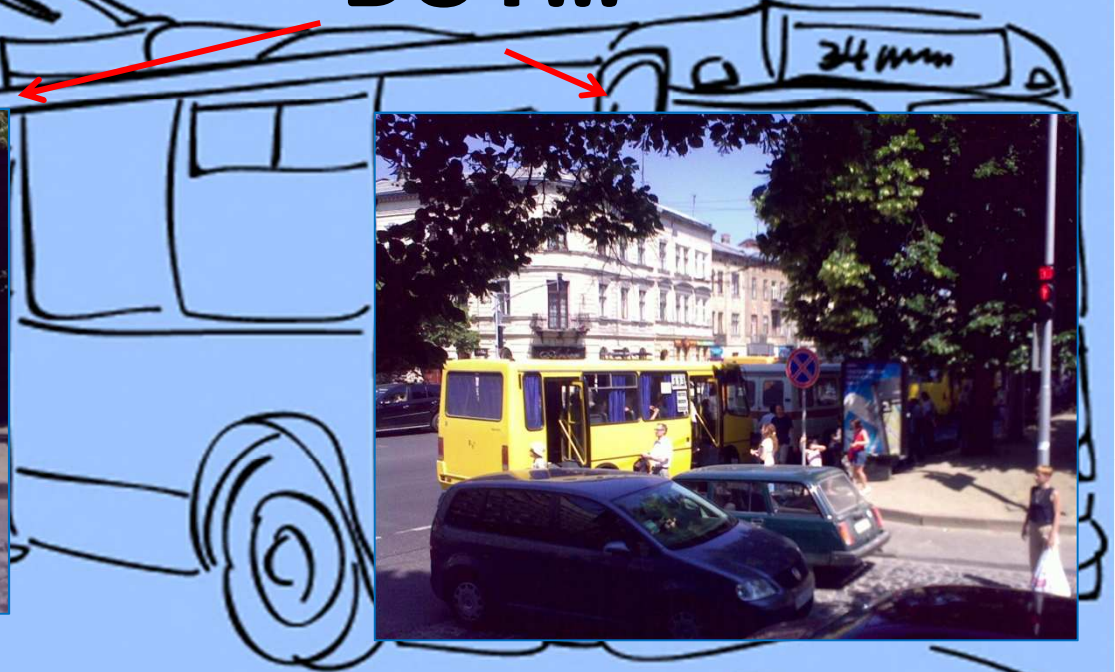
The main problems in efficient trolleybus routes running



Certainly trolleybus city lines have unique advantages:

- High capacity vehicles
- Short routes on necessary passenger communications in total pattern of city trip distribution
- Environmentally friendly

BUT...



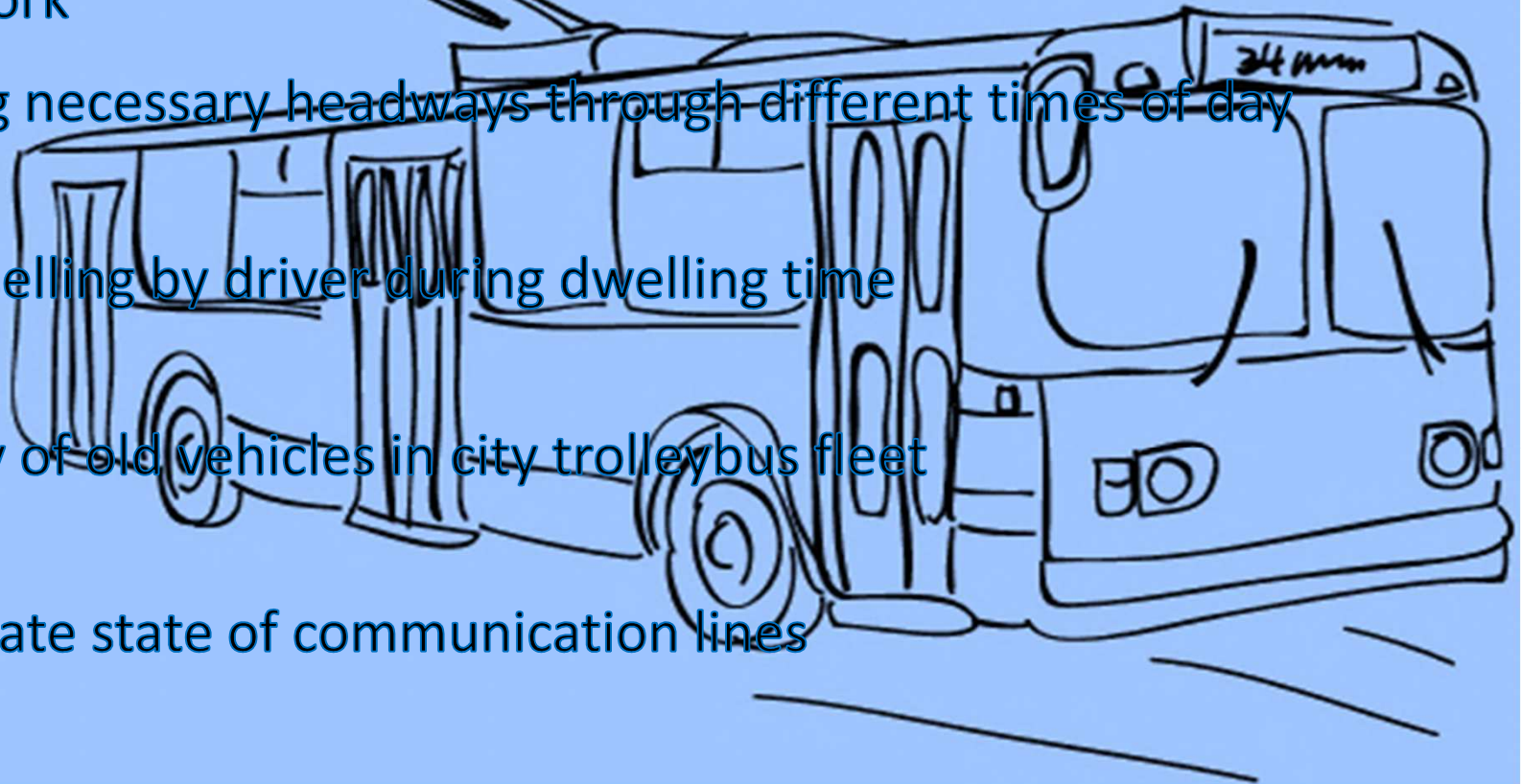
Now trolleybus lines aren't efficient and city bears losses!!!



The main problems in efficient trolleybus routes running

Trolleybus routes can't be efficient in city transit network due to some reasons:

1. Total duplication of trolleybus routes by minibus routes
2. Low service speed because of enormous minibus number on city road network
3. Breaking necessary headways through different times of day
4. Tickets selling by driver during dwelling time
5. Majority of old vehicles in city trolleybus fleet
6. Inadequate state of communication lines





The concept of new transit network in Lviv and place of trolleybus routes in it

Department of Transport Technologies with partner company Louis Berger designed new transit network for the city. The main principles for the new city transit network are:

1. Minimal routes number in central part of the city
2. Avoiding of trolleybus and tram routes duplication by another modes
3. Avoiding any big duplication of bus routes
4. Using integrated ticket for all modes

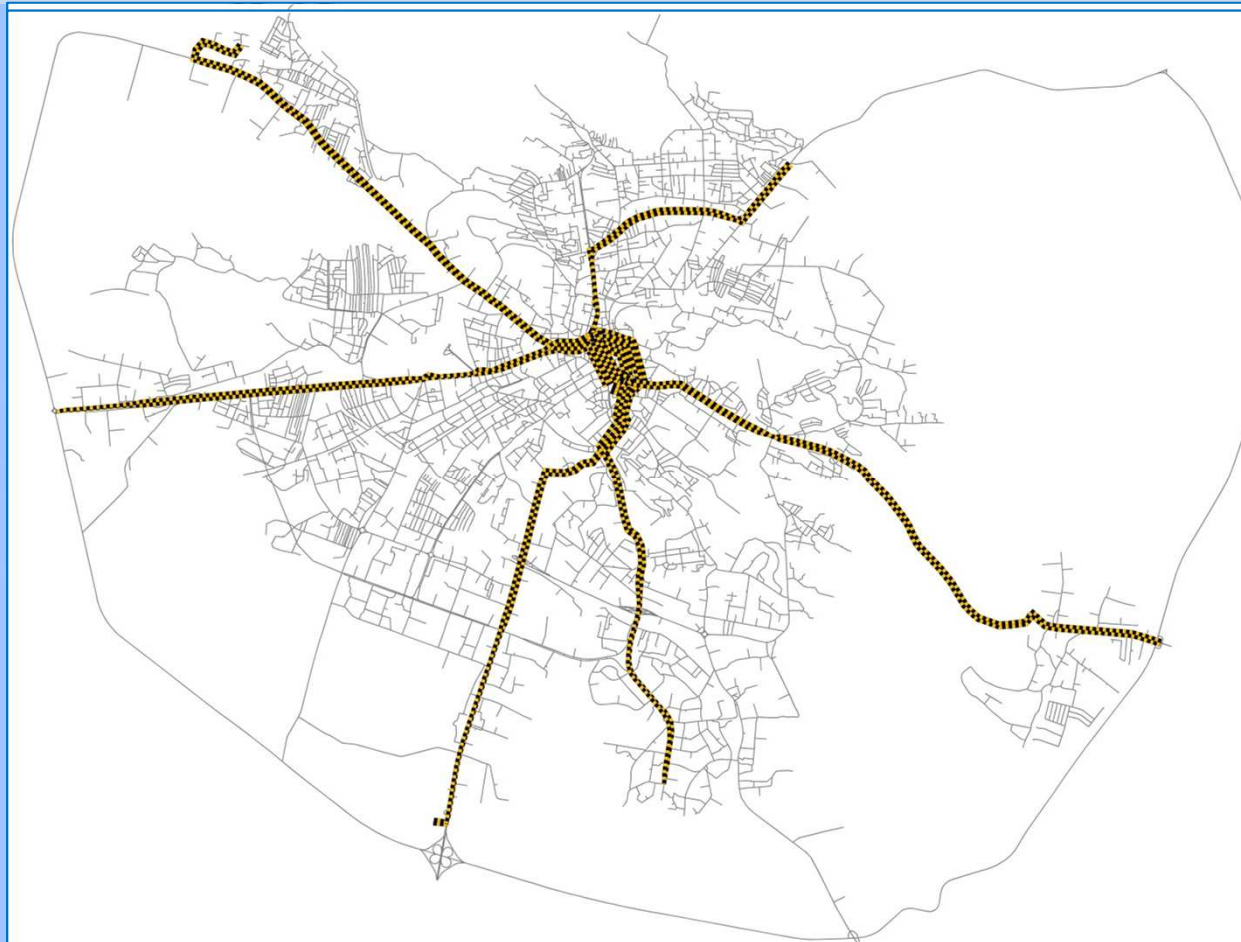




The concept of new transit network in Lviv and place of trolleybus routes in it

The frame of proposed transit network are:

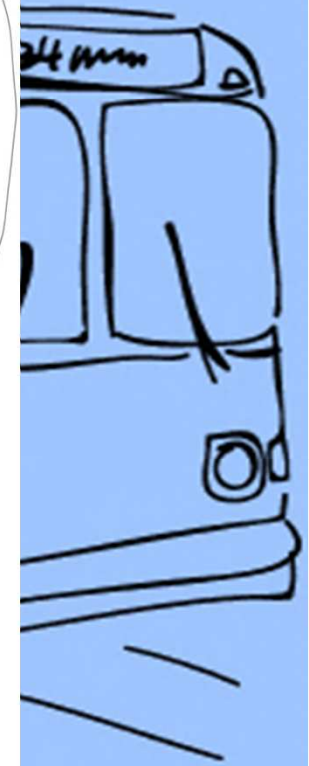
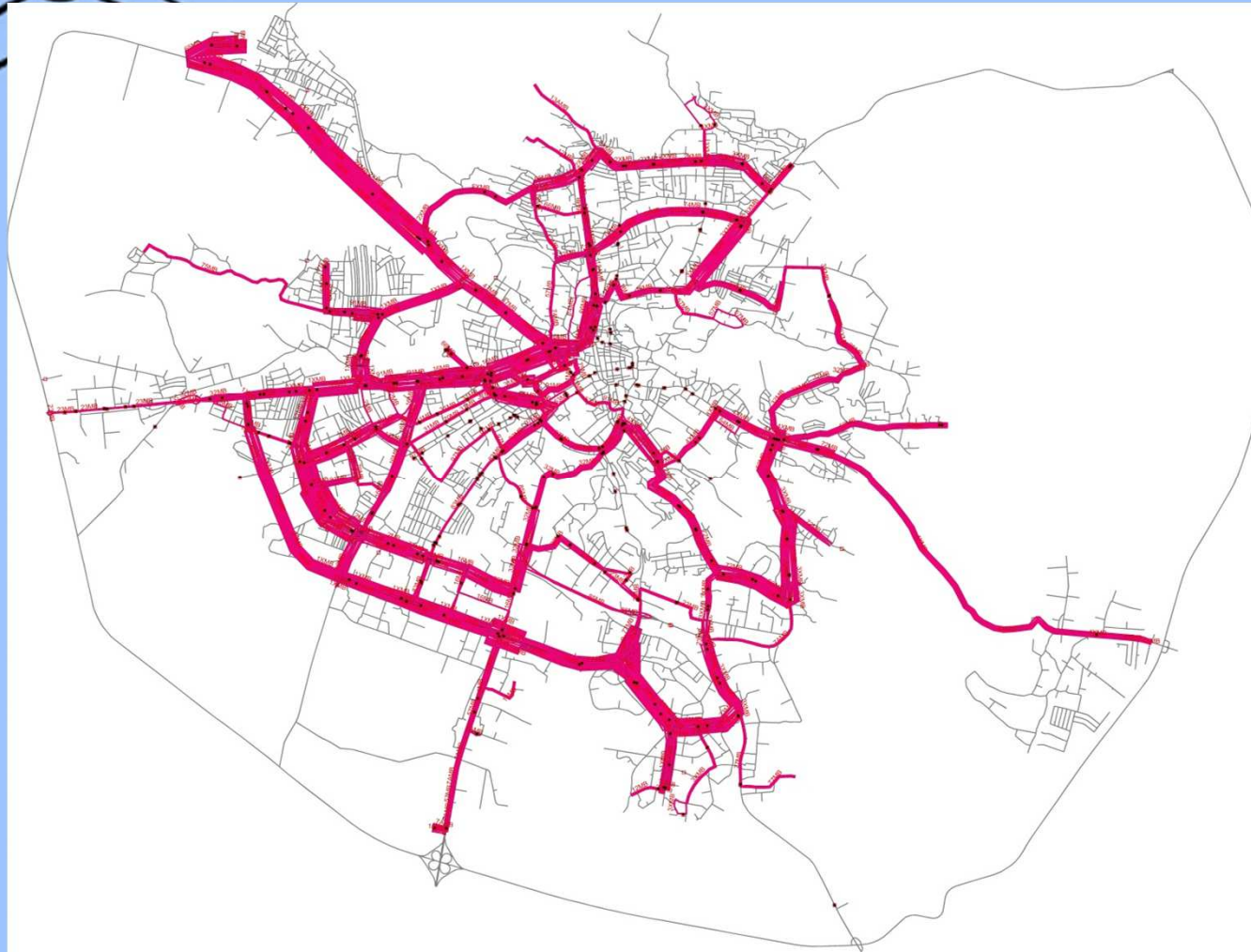
1. Existing 10 trolleybus and 9 tram routes
2. 6 radial big buses (100 and 185 passengers capacity) routes





The concept of new transit network in Lviv and place of trolleybus routes in it

40 minibus routes not enter the central part of the city and not duplicate in high level the frame routes





The concept of new transit network in Lviv and place of trolleybus routes in it

In new transit network trolleybus routes get perfect possibilities and can be efficient and useful in city passenger transportation system

The main results for trolleybus routes from implementation of new transit network are:

1. Increasing of passenger flows on these routes

2. Higher service speed on routes

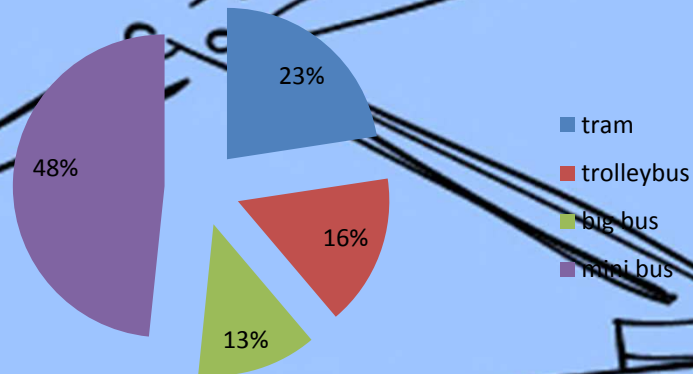
3. Drivers not sell tickets in vehicles



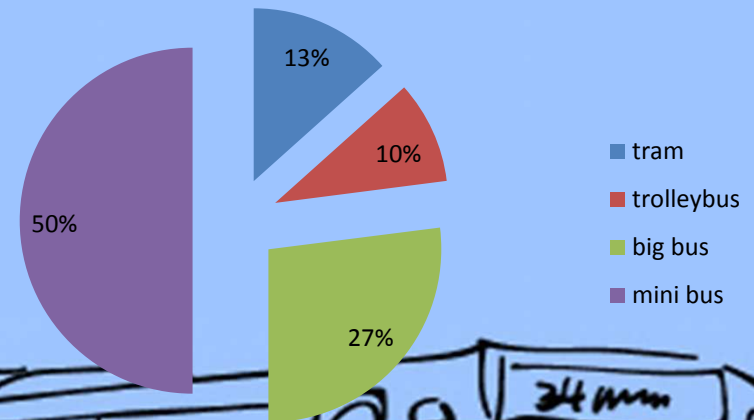


Prediction of trolleybus routes utility and its share in travel demand

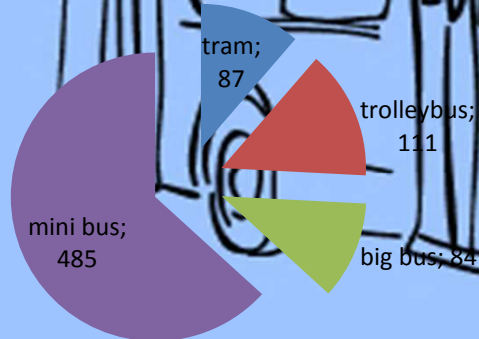
Number of trips collected by modes



Year earnings by modes



Number of necessary vehicles by modes



Time period	Trips
AM Peak	165000
Weekday	1092000
Week	6382000
Year	311170000



Thank you for attention!

