A FANTASTIC FUTURE?
THE FUTURE 1870
**Prominent Location**

- 5,500 New Dwellings
- Undefined Plot
- Major Access Point
- City Not Planned Yet
- Illegal Housing
- Industrial Area
- Camping Illegal Housing
- Another VINEX Polder
- Landscape Polder Landscape
- End Urban Area
- Harbours

**Why Only Housing?**

- Low Density
- Outdated Infrastructure
- Small Industry Area
- Public Housing
- Harbours

**Development Stopper**

- Attractive Location
- Peninsula with Potential Recreational Lake
- Marina Likely to Develop
- IJburg 2

**Do Not Touch!**

- Rural Impression
- Why Does This Still Exist
MULTIPLE PROPOSALS

MARKEROOG ISLANDS

NEW INFRASTRUCTURE

ZEEBURGER ISLAND

NEW INFRASTRUCTURE

DBURG 2 DEVELOPMENT

NEW INFRASTRUCTURE

MULTIPLE PROPOSALS
How Could Zeeburgereiland become a Key Player within the Urban Development of Amsterdam and the Region?
RESEARCH
AN URBAN FOYER
The island of Zeeburgereiland is well positioned to create a strong connection between the inner city and its new suburban developments. On the island, 5,500 new dwellings are being built, which will have a major influence on the city's dynamics and appearance. For now, the island is zoned as a residential area, but this research claims it has a potential and urge to be more.

The highway exit which accesses the island is the third-largest by passing cars. An amount of 64,000 cars pass the island daily. The extension, which is being built on the southwest of the island and connected to the highway, will facilitate these car movements.

In addition to IJburg 2, a new railway will be built to improve the connection of the island with the city and Almere as well. Following the development of a new railway between Amsterdam and Almere, the ambition derived to search for future purpose for the area it encloses.

The Markeroog Island development, started as a project to create an artificial natural landscape on the lake, now progressed to the ambition to create dwellings around this natural landscape.
How could Zeeburgereiland gain a central position within the city of Amsterdam, and act as an addition on the emerging Ringcentres?
DESIGN TOPIC
AN AUTOMOTIVE FOYER
LOST HOURS DUE TO CONGESTION, IN MILLIONS

- **840,000,000** EURO
  - Annual additional personal cost due to Congestion

- **38 HOURS**
  - Annual additional lost time due to Congestion

- **3.7 BILLION**
  - Overall annual cost of congestion nationwide
PRIMARY ROAD NETWORK
5.279 km
Average distance to access point: 1.8 km

RAIL NETWORK
2.302 km
Average distance to access point: 5.3 km
139,000 km of roads
Making it one of the most dense networks in the world

PRIMARY ROAD NETWORK
5,279 km
Average distance to access point: 1.8 km

RAIL NETWORK
2,302 km
Average distance to access point: 5.3 km
The vision of the future sees private ownership as the continuing norm, as consumers opt for the forms of privacy, flexibility, security and convenience that are linked with owning a car. While the incorporation of autonomous driver-assistance technologies will gradually gain in popularity, this future state assumes that fully autonomous drive does not completely displace driver-controlled vehicles anytime soon.

- Above average congestion factor
- High convenience for regular user
- High driver involvement / satisfaction
- Highly personalised means of transport
- Low efficient usability
- Low mobility contribution

Presuming that private ownership will continue to be a big part of the market, autonomous driver-assistance technology proves a viable, safe, convenient and economical alternative to driver-driven cars. Drivers still prefer owning their own vehicles but seek driverless functionality for its safety and convenience. This will ultimately result in a proliferation of highly customised, personalised cars focused on families or individuals with specific needs.

- Lowest congestion factor
- High convenience for regular user
- No driver involvement / satisfaction
- Highly personalised means of transport
- Low efficient usability
- Low mobility contribution

The vision also anticipates on the continued growth of shared access to vehicles through ridesharing and carsharing. Economic scale and increased competition drive the expansion of shared vehicle services into new geographical territories and more specialised customer segments. As shared mobility serves a greater proportion of local transportation needs, multi-vehicle households can begin reducing the number of cars they own, while other may eventually abandon ownership completely.

- Highest congestion factor
- Low convenience for regular user
- Average driver involvement / satisfaction
- Low personalised means of transport
- High efficient usability
- High mobility contribution

Anticipating on a convergence of both the autonomous and vehicle sharing trends, this vision sees this eventually becoming the largest represented group. Mobility management campaigns and fleet operators offer a range of passenger experiences to meet widely varied needs at differentiated price points. Taking off first in urban areas but spreading to the suburbs, this future state provides seamless mobility across modes that are faster, cheaper, cleaner, safer and more convenient than today.

- High congestion factor
- Low convenience for regular user
- No driver involvement / satisfaction
- Low personalised means of transport
- Highest efficient usability
- Highest mobility contribution
### NEW CONSERVATIVE

- **Car Affinity**
- **Technological Enthusiasm**
- **Median Income**
- **Age**
- **Consumption Orientated**
- **Status Minded**
- **Environmental Consciousness**

### COSMOPOLITAN

- **Car Affinity**
- **Technological Enthusiasm**
- **Median Income**
- **Age**
- **Consumption Orientated**
- **Status Minded**
- **Environmental Consciousness**

### POST-MATERIALISTS

- **Car Affinity**
- **Technological Enthusiasm**
- **Median Income**
- **Age**
- **Consumption Orientated**
- **Status Minded**
- **Environmental Consciousness**

### SOCIAL CLIMBERS

- **Car Affinity**
- **Technological Enthusiasm**
- **Median Income**
- **Age**
- **Consumption Orientated**
- **Status Minded**
- **Environmental Consciousness**
91,300 m²
Repurposable Real Estate
39,600 m²
Repurposable Real Estate
130,900 m²
Repurposable Real Estate
€ 647,955,000,-
Repurposable Real Estate
over 6,000 parking spots will have to be relocated
THE FUTURE OF CAR USE
Unesco Heritage District

Historic City Centre

Inner City Centre / Commercial

Outer City Centre / Residential

Ring Zone Centre

Suburban areas

Rural areas
Unesco Heritage District

Commercial Areas within the A10

Residential Areas within the A10

Ringzone Commercial Districts

Suburban Areas Outside the A10

Rural Areas

Historic City Centre

Inner City Centre / Commercial

Outer City Centre / Residential

Ring Zone Centre

Suburban areas

Rural areas
THE FUTURE OF CAR USERS
Will - 29 years old
Robbert - 32 years old
Megan - 26 years old
Luis - 56 years old
Sara - 33 years old
Peter - 49 years old
Denise - 36 years old
Francesca - 28 years old

Inner City Parking Facilities
Francesca - 28 years old

Francesca is busy woman, who likes to do as much as possible on one day. She just finished working, and plans to go to the gym and afterwards do some shopping. Because she figures that she will do quite some purchases, Francesca called for a car.
Robbert - 32 years old

Robbert just moved from the city to a peaceful suburb just outside Amsterdam with his new wife. He is planning to use public transit to get to work. He is already dreaming of buying a own car, when his capital allows that, because he wife is pregnant. He thinks of the nice family holidays he could take after he has bought his car. However, today he rented a car, so he could move his furniture to the new house.
Will - 29 years old

Will works and lives in the city, and uses his bicycle to commute daily. Only when it rains, he goes by tram. However, Will is a petrolhead as well and therefore still owns an old-fashioned car. He drives his car occasionally as an activity to escape the hectic city life for a drive through the landscape.
Peter - 49 years old
Peter has a management role within a major corporation at the Ringzone of Amsterdam. He self lives in a rural area, about 40 min drive from his work. Peter has an affinity with car and prefers to own a personal form of mobility, so that he can work during his daily commute. Occasionally after his work he likes to take the steering wheel, a uses a b-road to drive home himself to relax a bit.
Luis - 56 years old

Luis is an architect who mostly does commissions for residential villas in the countryside of the Netherlands. For his work he has to travel a lot and likes to drive himself. Today he is meeting Peter for a potential new commission. Therefore they have scheduled a meeting at the Mobility HUB on Zeeburgeriland.
Duruolaan
This road function as one of the most heavily used entrance routes to the inner city. On a daily basis, over 66,000 vehicles will travel through this street. As a result, the intersection with the Zuiderweg is a point which easily gets congested.

There are two 'Park and Ride' facilities located on the island, with a capacity for 637 cars. However, these are usually full during a large part of the day due to their insufficient space.
The Zuiderzeeweg is still considered an important road, because it functions as the most direct connection with the northern parts of Amsterdam. Due to the fact that this route is not as heavily used, it could remain unchanged.

Because the Piet Heijn Tunnel will directly guide toward the inner city centre, the use of this infrastructure is restricted to private mobility. The tunnel can merely be used by public transit and Autonomous shared mobility.

Daily this road handles over 66,000 vehicles, what most certainly will increase to numerous developments in the area. To facilitate this massive traffic flow, the focus point should be the intersection between the Zuiderzeeweg and IJburglaan, because this forms the primary cause for congestion.
FACILITATING THE CAR
PARKING LOT

MULTI-STORY CAR PARK

SUBMERGED CAR PARK

ECLECTIVISM

MODERNISM

POST-MODERNISM
23,1 m²/Car
On basis of Typological Research
AUTOMATED SYSTEMS
11,6 m²/Car
Making it on average 50% more space efficient than conventional parking
AUDI PILOTED PARKING INITIATIVE

AUTONOMOUS PILOTED SYSTEMS
AUDI PILOTED PARKING INITIATIVE

9,2 m²/Car
Making it on average 60% more space efficient than conventional parking
What could a parking facility on Zeeburgereiland offer more than just storing cars?
DESIGN PROPOSAL
THE AUTOMOTIVE FOYER
PERSONAL OWNED AUTONOMOUS CAR STORAGE

PUBLIC TRANSIT STOP

PERSONAL OWNED AUTONOMOUS CAR STORAGE

DRIVER-DRIVEN CAR PARKING FACILITY

CAR RENTAL STORAGE

SHARED AUTOMOTIVE MOBILITY STORAGE / RECHARGING / MAINTAINANCE
2.900 lots
Automonomous Piloted parking
60% of Parking demand
9.2 m²/car

2.600 lots
Automated Parking Mechanism
40% of Parking demand
11.6 m²/car

400 lots
Automated Parking Mechanism
25% of Parking demand
11.6 m²/car

400 lots
Personal Owned Autonomous Car Storage
25% of Parking demand
9.2 m²/car

2.900 lots
Public Transit Stop

400 lots
Driver-Driven Car Parking Facility

400 lots
Car Rental Storage

250 lots
Shared Autonomous Car Storage

250 lots
Maintenance
WHAT MAKES THE AUTOMOTIVE FOYER DIFFERENT FROM OTHER PARKING FACILITIES?
WHAT IS A FOYER
FOYER

MULTI-FUNCTIONAL

WHAT IS A

ENTRANCE

MEETING SPACE

REPOSE AREA

EXHIBITION
FOYER

WHAT IS A

MULTI-FUNCTIONAL

FLEXIBLE

ENTRANCE

MEETING SPACE

REPOSE AREA

EXHIBITION

DESTINATION

PASSING THROUGH

WORK

LEISURE

DAY

NIGHT

FORMAL

INFORMAL
PASSING THROUGH

DESTINATION
**WHAT IS A Foyer**

**MULTI-FUNCTIONAL**

- **FLEXIBLE**
  - **AUTOMOTIVE**
    - **ENTRANCE**
      - **DESTINATION**
        - **PASSING THROUGH**
          - **WORK**
            - **LEISURE**
              - **DAY**
                - **NIGHT**
                  - **FORMAL**
                    - **INFORMAL**
                - **REPOSE AREA**
                  - **DAY**
                    - **NIGHT**
                      - **FORMAL**
                        - **INFORMAL**
              - **LEISURE**
                - **DAY**
                  - **NIGHT**
                    - **FORMAL**
                      - **INFORMAL**
          - **WORK**
            - **LEISURE**
              - **DAY**
                - **NIGHT**
                  - **FORMAL**
                    - **INFORMAL**
      - **MEETING SPACE**
        - **WORK**
          - **LEISURE**
            - **DAY**
              - **NIGHT**
                - **FORMAL**
                    - **INFORMAL**
        - **LEISURE**
          - **DAY**
            - **NIGHT**
              - **FORMAL**
                - **INFORMAL**
    - **EXHIBITION**
      - **FORMAL**
        - **INFORMAL**

**Brought together in a place which is oriented towards motorists and encloses an automotive culture.**
WHAT IS A FOYER

MULTI-FUNCTIONAL

FLEXIBLE

AUTOMOTIVE

DYNAMIC

ENTRANCE

MEETING SPACE

REPOSE AREA

EXHIBITION

DESTINATION

PASSING THROUGH

WORK

LEISURE

DAY

NIGHT

FORMAL

INFORMAL

BROUGHT TOGETHER IN A PLACE WHICH IS ORIENTED TOWARDS MOTORISTS AND ENCLOSES AN AUTOMOTIVE CULTURE

PARKING AND CIRCULATION

RETAIL SPACE / GRAB&GO

LOUNGE

CONFERENCE ROOMS

CAFE / BAR

EXHIBITION / CONVENTION SPACE
WHAT IS A

REPOSE AREA

ENTRANCE MEETING SPACE

MULTI-FUNCTIONAL

DAY NIGHT FORMAL INFORMAL

PASSING THROUGH WORK LEISURE

FLEXIBLE

PARKING AND CIRCULATION

DESTINATION

BUILT TOGETHER IN A PLACE WHICH IS ORIENTED TOWARDS MOTORISTS AND ENCLOSSES AN AUTOMOTIVE CULTURE

DYNAMIC

FORMAL INFORMAL

EXHIBITION

RETAIL SPACE / GRAB&GO LOUNGE CONFERENCE ROOMS CAFE / BAR EXHIBITION / CONVENTION SPACE

AUTOMOTIVE FOYER
### TOTAL PASSING CARS DAILY:

<table>
<thead>
<tr>
<th>Year</th>
<th>DOUBLE WAY</th>
<th>ONE WAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>63,600</td>
<td>31,800</td>
</tr>
<tr>
<td>2050</td>
<td>64,554</td>
<td>32,277</td>
</tr>
</tbody>
</table>

### SPACE / PARKED CAR:

<table>
<thead>
<tr>
<th>System Type</th>
<th>m²/car</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional System</td>
<td>23.11</td>
</tr>
<tr>
<td>Autonomous System</td>
<td>9.24</td>
</tr>
<tr>
<td>Automated System</td>
<td>11.55</td>
</tr>
</tbody>
</table>

### PROGRAM PARKING:

<table>
<thead>
<tr>
<th>PERSONAL OWNED</th>
<th>SYSTEM NEEDED</th>
<th>NUMBER OF PASSING CARS</th>
<th>SPACE NEEDED TO PARK (100%)</th>
<th>SUPPLY OF PARKING</th>
<th>NUMBER OF PARKING SPACES</th>
<th>SPACE OFFERED IN FACILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver-Driven</td>
<td>Automated</td>
<td>6,455</td>
<td>74,560 m²</td>
<td>40 %</td>
<td>2,582</td>
<td>29,824 m²</td>
</tr>
<tr>
<td>Autonomous</td>
<td>Autonomous</td>
<td>4,842</td>
<td>44,736 m²</td>
<td>60 %</td>
<td>2,905</td>
<td>26,842 m²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SHARED</th>
<th>SYSTEM NEEDED</th>
<th>NUMBER OF PASSING CARS</th>
<th>SPACE NEEDED TO PARK (100%)</th>
<th>SUPPLY OF PARKING</th>
<th>NUMBER OF PARKING SPACES</th>
<th>SPACE OFFERED IN FACILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver-Driven</td>
<td>Automated</td>
<td>1,614</td>
<td>18,640 m²</td>
<td>25 %</td>
<td>403</td>
<td>4,660 m²</td>
</tr>
<tr>
<td>Autonomous</td>
<td>Autonomous</td>
<td>1,614</td>
<td>14,912 m²</td>
<td>25 %</td>
<td>403</td>
<td>3,728 m²</td>
</tr>
</tbody>
</table>

Total: 14,525 cars 152,848 m² 44 % of Demand 6,294 Lots 65,053 m²

### PROGRAM Foyer:

<table>
<thead>
<tr>
<th>FLOOR SPACE</th>
<th>m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail / Grab &amp; Go</td>
<td>350</td>
</tr>
<tr>
<td>Cafe / Bar</td>
<td>500</td>
</tr>
<tr>
<td>Lounges</td>
<td>750</td>
</tr>
<tr>
<td>Exhibition Space</td>
<td>1,000</td>
</tr>
<tr>
<td>Conference Rooms</td>
<td>800</td>
</tr>
<tr>
<td>Circulation</td>
<td>1,500</td>
</tr>
<tr>
<td>Other</td>
<td>600</td>
</tr>
</tbody>
</table>

**FOYER:** 5,500 m²

**AUTOMOTIVE FOYER = 70,553 m²**
CONVENTIONAL PARKING
MORE EFFICIENT PARKING CONFIGURATION

ROTATE EXTERIOR WALLS
ARCHITECTURAL LOBOTOMY
INCREASE PARKING DENSITY
INTRODUCE COURTYARD
MAKE ACCESSIBLE FOR ALL DIRECTIONS
GIVE SUGGESTION TO HIGH-RISE
ENCAPSULATE COURTYARD
PARKING AS A DETACHED STRUCTURE
PARKING AS A DETACHED STRUCTURE
ONE VERTICAL CORE IN THE MIDDLE TO FACILITATE VERTICAL CIRCULATION
PARKING AS A DETACHED STRUCTURE
TRUSSES TO BEAR REMAINING EXCEPTIONAL SPANS
PARKING AS A DETACHED STRUCTURE

DYNAMIC EXPRESSION IN LAYOUT AND WALL CONFIGURATION
FLOORS WHICH BALANCE BY REVERSING MOVEMENT
SHARED MOBILITY STAGING AREA

CROSS SECTION
ALTERNATIVE CONFIGURATION
CONFERENCE ROOM LEVEL
FACADE FRAGMENT
Brushed aluminium slats
350 x 100 mm

HEM 220 steel column

HEM 220 steel beam

Prefabricated concrete gutter

In situ casted concrete with ground retaining wall
800 mm

Steel ladder structure for storage car

BMW E86 Z4 3.0si
2998cc internal combustion engine
265 BHP - 315 Nm
1,400 Kg
Steel front plate for attachment
Prefab roof element - Anchor rail
Prefabricated concrete roof element
c.t.c: 2500 mm
Bird Prevention cable
Steel socket connection
HEM 220 steel column
Brushed aluminium slats
350 x 100 mm
HEM 220 steel beam
Steel ladder structure for storage car

BMW E92 M3
4000 cc internal combustion engine
420 BHP - 400 Nm
1,555 Kg
BMW E37 Z3 2.2i
2.200 cc internal combustion engine
168 BHP - 210 Nm
1.325 Kg

Bird prevention cable
Socket connection for attachment slats facade

BMW E60 525i
2.500 cc internal combustion engine
188 BHP - 237 Nm
1.760 Kg

Brushed aluminium slats
350 x 100 mm
Steel ladder structure for storage car
HEM 220 Column

Bird prevention cable
Socket connection for attachment slats facade

DETAIL H1
TRANSLUCENT ATRIUM ROOF ALLOWS MAXIMUM HEAT RADIATION

CLIMATE PRINCIPLE - VENTILATION
GROUND LEVEL +0
SHARED MOB. LEVEL +11.000
LOUNGE LEVEL +16.500
EXPO LEVEL +22.000
CONFERENCE LEVEL +27.500
BAR / RESTAURANT LEVEL +33.000
PT LEVEL -5.500
DROP OFF LEVEL -9.000
VALET LEVEL -12.250
PARKING -15.500
PARKING -17.750
PARKING -20.650

TRANSLUCENT ATRIUM ROOF ALLOWS MAYOR HEAT RADIATION

NATURAL FORCED VENTILATION
TRANSLUCENT ATRIUM ROOF ALLOWS MILD HEAT RADIATION

NATURAL FORCED VENTILATION

ADDITIONAL COOLING THROUGH TUNNELS (MECHANISED)
CLIMATE PRINCIPLE - ZONES

PARKING TOWER FUNCTION AS A BUFFER

THERMAL INSULATION LAYER
PARKING TOWER FUNCTION AS A BUFFER

ATRIUM AS REGULATOR OF TEMPERATURE DIFFERENCES

THERMAL INSULATION LAYER
PARKING TOWER: FUNCTION AS A BUFFER

ATRIUM: AS REGULATOR OF TEMPERATURE DIFFERENCES

THERMAL INSULATION LAYER

AIR TO AIR VENTILATION WITH CONVECTION

POSSIBILITY FOR GEOTHERMAL ENERGY STORAGE

10 - 38°C

-10 - 38°C
HEM 220 Column

In situ casted concrete 680 mm

Steel guider for car elevator

Glass reinforced concrete sandwich element with insulation 100 mm

Steel socket for the purpose of atrium roof assembly

U-shaped gutter 255 mm - supported by L-angled beam

Steel plated girder 1300 mm for atrium roof structure

Double Glazed structural glass 3500 x 3500 mm

Folded steel sheeting for water proofing/roof

Steel console for attachment Parking structure with shear link connection

In situ casted concrete 880 mm

HEM 220 Column

DETAIL V4