



# Increasing Safety and Humanization of Roads in Urban Areas

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## Development in the 1970s

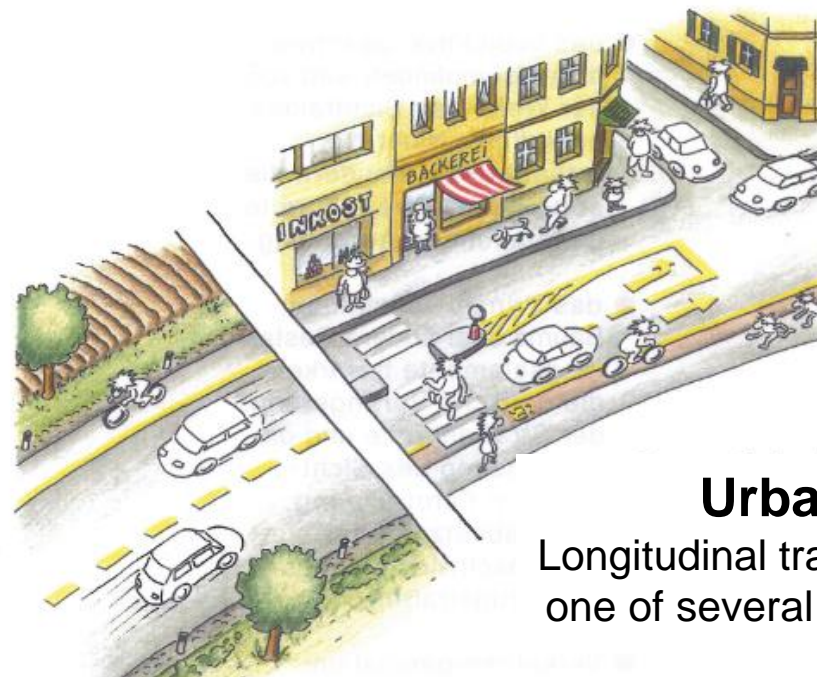
- Infrastructure continuously adapted for motor vehicle use (urban & rural)...



- Speeds not compatible with those of Vulnerable Road Users (VRU)
- Urban thoroughfares become barriers and death strips
- No secure crossing facilities
- Life quality deteriorates
- Many killed VRUs

# Change of mind...

- Urban thoroughfares must be designed for everybody – not only for cars



Source: KFV

## Urban

Longitudinal traffic is only one of several use types

## Rural

Mostly longitudinal traffic

# Developments in Austria

- New legal regulations / change of legal regulations
- New Guidelines: Pedestrian Traffic / Bicycle Traffic
- Examples
- Supergrätzl (Superblocks)
- Schwammstadt (Sponge city)

# VRUs – change in legal regulations

## **Changes in Austrian Road Traffic Act, 2022**

- to improve conditions for VRUs, especially pedestrians and bicycle traffic
- to promote active mobility and make it more attractive
- not all regulations contribute to improving road safety

# Changes for VRUs – legal regulations

## Austrian Road Traffic Act:

- Drivers must allow pedestrians who are using a dedicated pedestrian crossing - or who clearly want to use it - to cross safely.



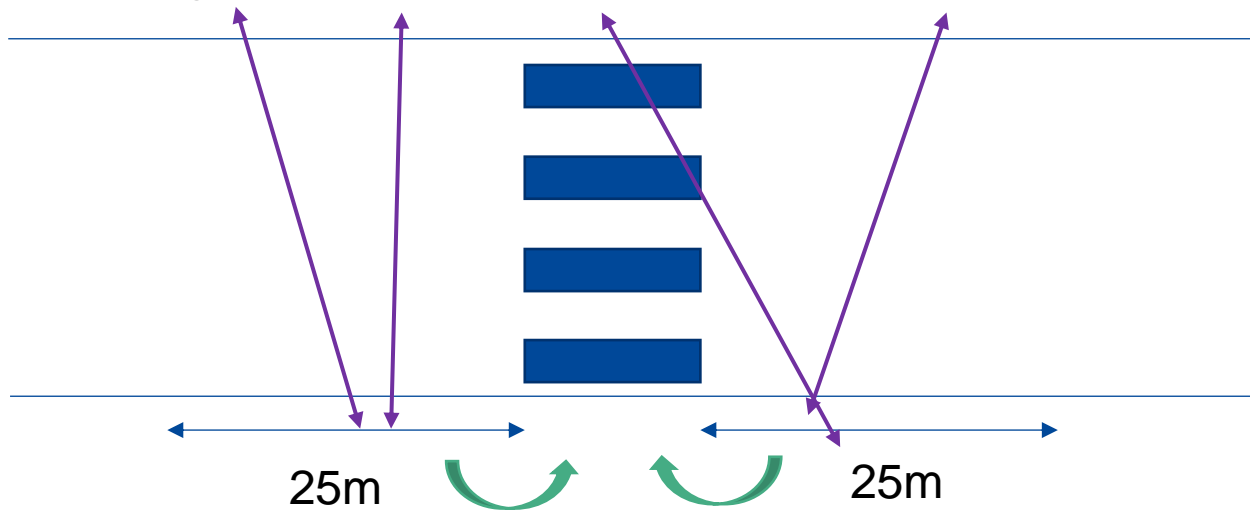
Source: KFV



# Changes for VRUs – legal regulations

## Austrian Road Traffic Act:

- Before: pedestrians must use a pedestrian crossing if it is located within 25 m

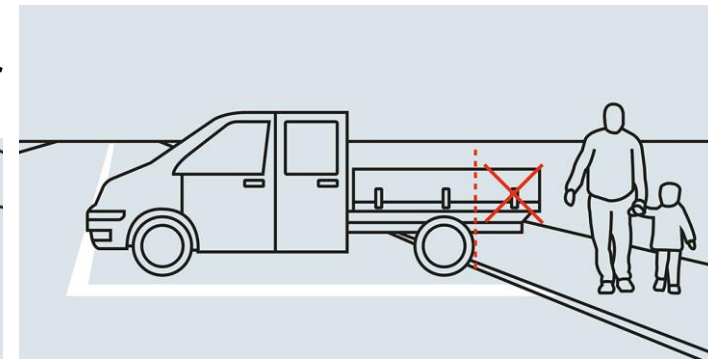
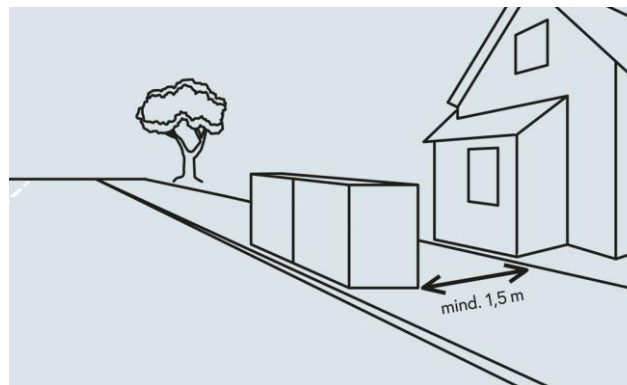


Change: if the traffic situation clearly allows it, crossing the street is now allowed within the 25 m-zone

# Changes for VRUs – legal regulations

## Austrian Road Traffic Act:

- Stopped or parked vehicles are no longer permitted to protrude onto pavements, footpaths or cycle paths. A limited protrusion onto pavements and footpaths, e.g. of a car bumper or for loading purposes for a maximum duration of ten minutes, is permitted. A protrusion onto cycle paths is not permitted under any circumstances.
- Footpaths: min. 1,5 m must be kept clear



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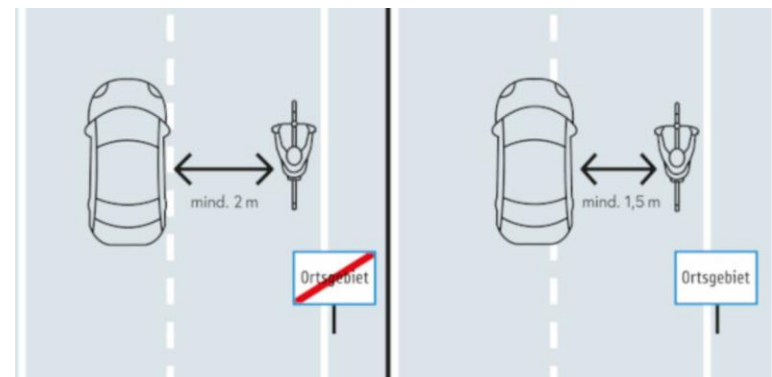
# Changes for VRUs – legal regulations

## Austrian Road Traffic Act:

- Overtaking of cyclists or e-scooter riders: minimum side clearance when overtaking
- minimum side clearance for driving speeds of above 30 km/h has been set at 1.5 m for urban roads and 2.0 m for rural roads

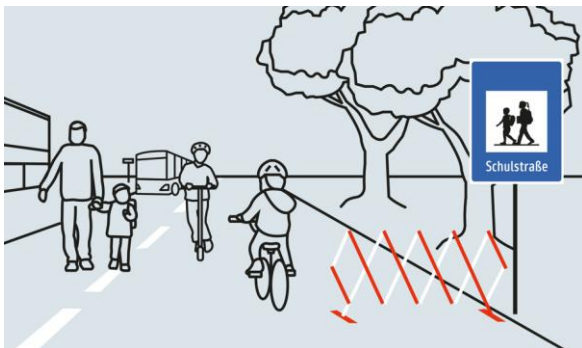
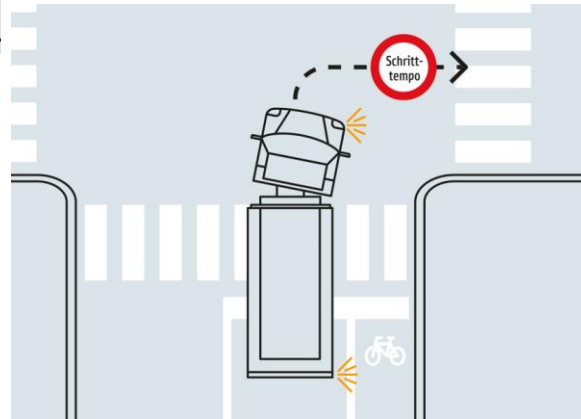
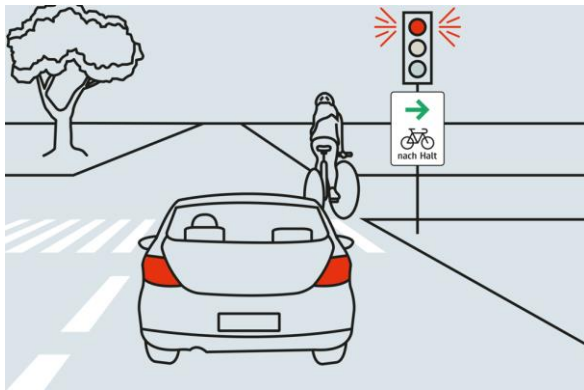
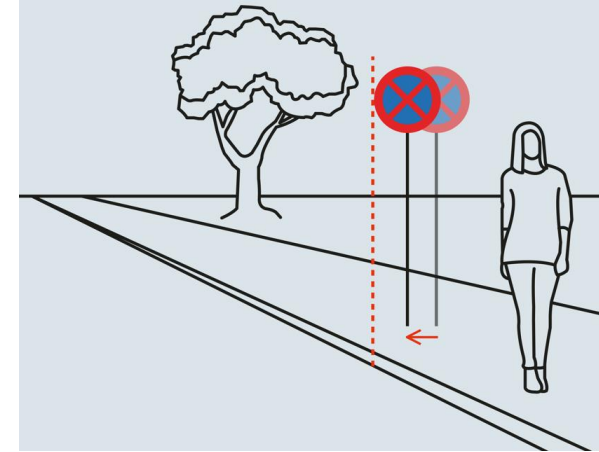
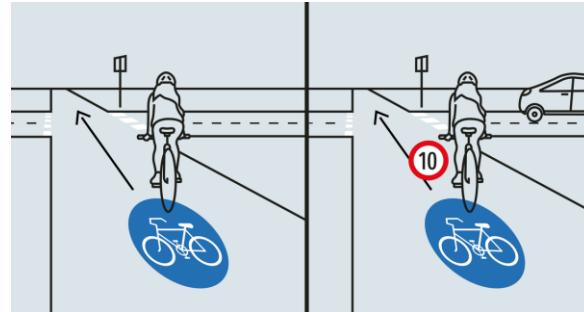


Source: KFV



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# Changes for VRUs – legal regulations



All pictures  
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## VRU – guidelines

- RVS 03.02.12 - Pedestrian Traffic (October 2015; planned 2025)
- RVS 03.02.13 - Bicycle Traffic (2022)
- RVS 03.04.13 - Child-Friendly Mobility (November 2015)
- RVS 03.04.14 - Design of School Vicinity (June 2016)
- RVS Working Paper - Application of Encounter Zones (July 2016)
- RVS 02.02.36 & ÖNORM B 1600 - Barrier-free Constructions (Sept. 2010 / April 2017)

Search terms: „FSV klimarelevante RVS“

<https://www.fsv.at/shop/agliste.aspx?ID=3156234c-555a-4b8c-8a24-bb156a19e866>

=> free download

# Guideline RVS 03.02.12 - Pedestrian Traffic

## Pedestrian crossing: parameters

- max. number of vehicles/hour
- max. number of pedestrians/hour
- Regular frequency of pedestrians
- Legal speed
- Sight distances
- User group
- Desired places to cross the street

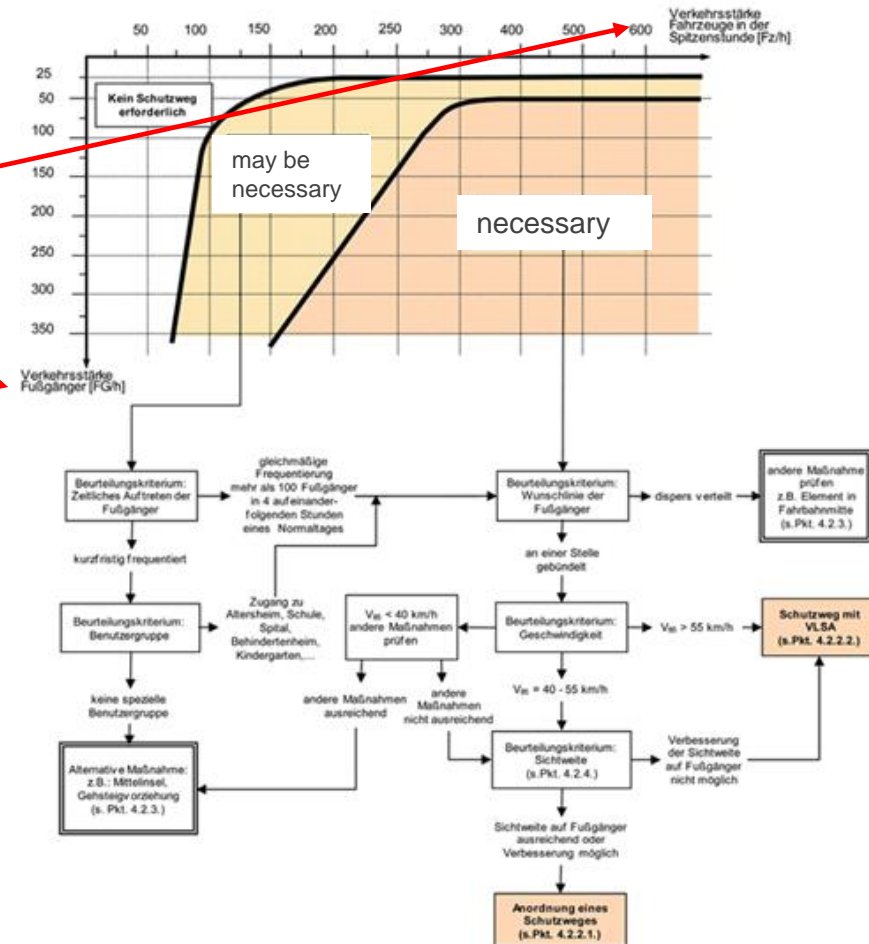


Abbildung 13: Beurteilungsverfahren zur Anordnung von Querungshilfen

Source: RVS 03.02.12

# Guidelines Pedestrian Traffic / Bicycle Traffic

## **Pedestrian traffic**

- Planning is currently based on existing requirements - a crossing aid is provided where many pedestrians cross and where there is relatively heavy traffic.

## **Bicycle traffic**

- Efforts are being made to provide as many cycling facilities as possible. The more facilities available, the greater the number of cyclists.
- Discussions are currently underway as to whether the approach used for cycling should also be applied (at least to some extent) to pedestrian traffic.

# Encounter Zone

- Legal speed 20 (30) km/h
- Shared use of the street
- Pedestrians may use the whole carriageway
- No “willful hindrance” of vehicles by pedestrians, no endangerment of pedestrians/cyclists by drivers
- Cycling alongside and in both directions allowed
- Parking in designated areas only
- Playing on the street not allowed





# Encounter Zone

Appropriate design necessary



Source: <http://www.begegnungszonen.or.at/>



Source: <http://www.begegnungszonen.or.at/>



Source: KFV



# Encounter Zone

## Experiences:

- On squares and narrow carriageways more homogenous traffic; longer and wider stretches: speed tends to be higher, design even more important
- Speed is lower in central part of encounter zones than at beginning and end; design and traffic volume have an impact on speed
- Behavior depends more on surroundings (shops, bars, design etc.) than on traffic volume
- Mostly positive attitude towards encounter zones

# School streets

- So-called school streets (Schulstraßen) can be set up in the immediate vicinity of school buildings for specified periods of time such as the start and end of the school day.

During these periods the street is closed to motor vehicles except residents and public services

Walking on the street is permitted, as is cycling and riding e-scooters (at walking speed)



Source: KFV

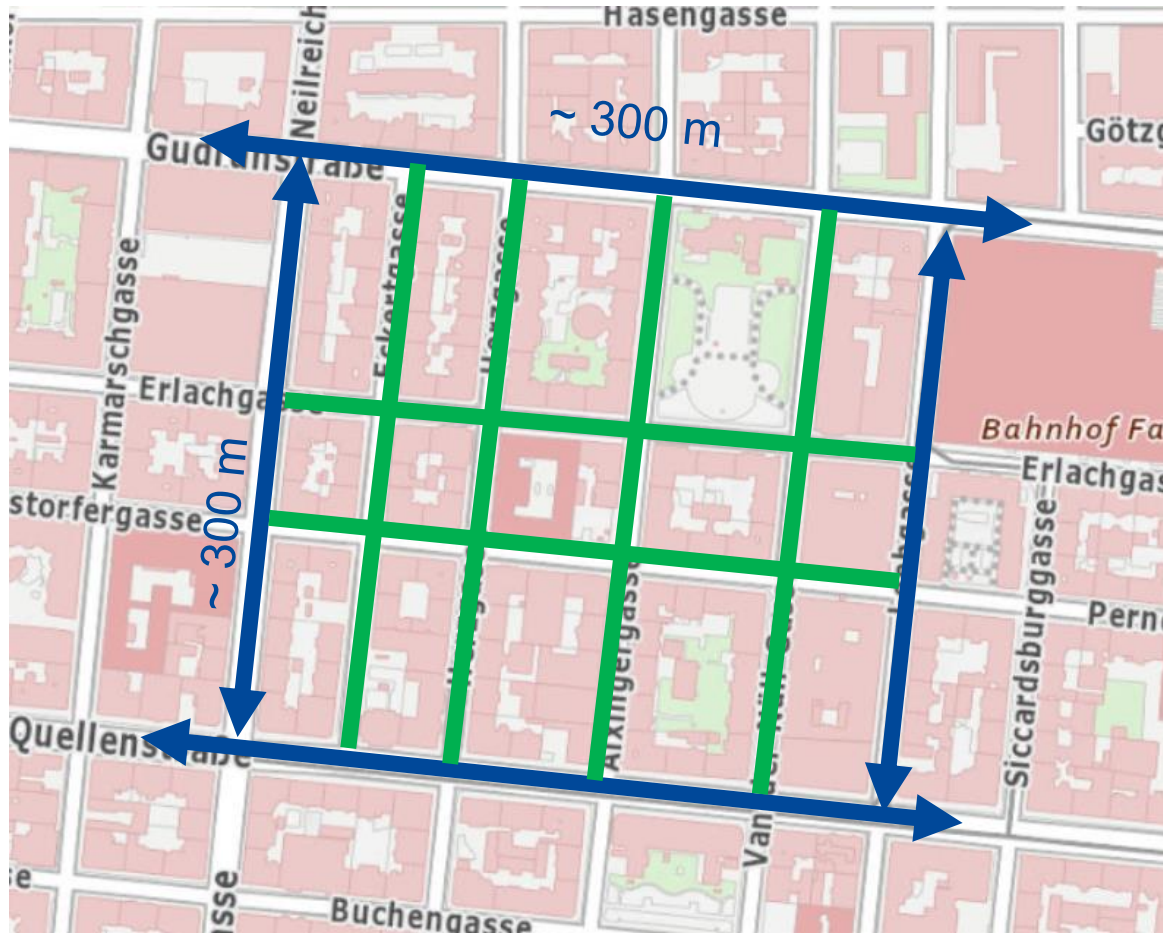
# Cycle streets

- Legal speed 30 km/h
- Riding side by side is permitted
- Initially, motorized traffic was not permitted to pass through a cycle street. Since 2022 passage can be permitted.
- Cycle street should have right of way



Source: KFV

# Supergrätzl (Superblocks)



Source: basemap.at



# Supergrätzl (Superblocks)



Source: KFV



# Supergrätzl (Superblocks)



# Schwammstadt (sponge city)

## Die klimagerechte Schwammstadt

Warum aus stark versiegelten Großstädten Schwammstädte werden sollten



### Steigende Temperaturen

Zwischen 1881 und 2022 Anstieg der Jahresmitteltemperatur um 1,7°C.



### Wasserverlust

Seit 2002 verliert Deutschland 2,5 Kubikkilometer Wasser pro Jahr. Es gehört zu den Regionen mit dem höchsten Wasserverlust weltweit.



### Gründächer

2020 existierten 0,8 m² Gründachfläche pro Bewohner\*in einer Großstadt.



### Erholungsflächen

2021 existierten 40 m² Erholungsfläche pro Großstädter\*in in städtischen Grünanlagen.



### Flächenverbrauch

Seit 2017 wächst die Siedlungs- und Verkehrsfläche um 55 Hektar pro Tag.



### Starkregen

Hitze befördert Starkregen: 2021 betrafen Starkregen-Warnungen 30% der Siedlungen.



### Trockenheit

Zunehmende und längere Trockenperioden gefährden die Vitalität des Stadtgrüns und lassen Grundwasserspiegel sinken.



### Sachschäden

Starkregenereignisse führten 2021 zu versicherten Schäden in Höhe von 8,1 Mrd. Euro.



### Hitzebelastung

Im Rekordjahr 2018 wurden im Bundesdurchschnitt rund 20 heiße Tage ermittelt, in Frankfurt am Main sogar 42.



Kühlungseffekt durch lokale Verdunstung



Ausweitung der Dach- und Fassadenbegrünung



Renaturierung urbaner Gewässer



Ausweitung von Grün- und Erholungsflächen



Steigerung der Versickerungsflächen zur Speicherung von Wasser



Abmilderung von Starkregeneffekten

Quelle: Monitoringbericht 2023 zur Deutschen Anpassungsstrategie an den Klimawandel



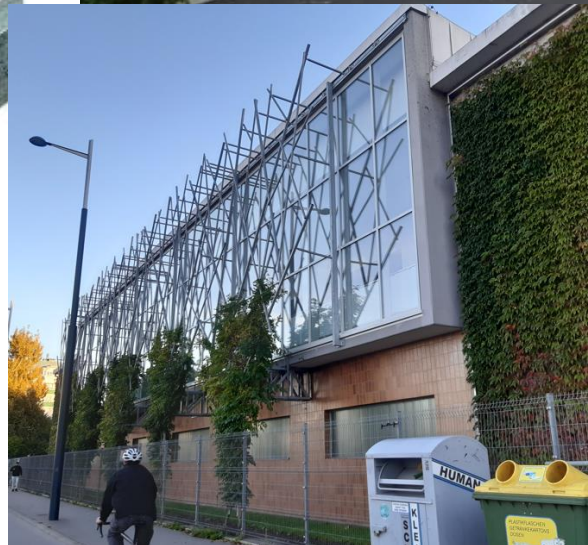
# Schwammstadt (sponge city)



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Source: schwammstadt.at



Source: KFV



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Thank you!

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