

# **Demand for Long-Distance International Passenger Trains in Europe: Case Study Vindobona**

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Natural Resources and Life Sciences  
(BOKU), Vienna**



**Universität für Bodenkultur Wien**



# Background: A brief history of long-distance international passenger train services

- 1874: founding of the Compagnie Internationale des Wagons Lits et des grands Express Européens
  - own express services + cars attached to other trains
  - income from 20% fares supplement
- Post-war developments led by UIC
  - 1957: Trans-European Express Network
    - separate company proposed but rejected
  - 1986: EuroCity daytime express services
    - quality standards
    - network peaked in 1993
- Conventional long-distance services in decline since 1994
  - liberalisation of aviation in EU
  - hidden subsidies to other modes
  - high speed rail + bespoke rolling stock
  - commercial pressures + 4.5 hour limit



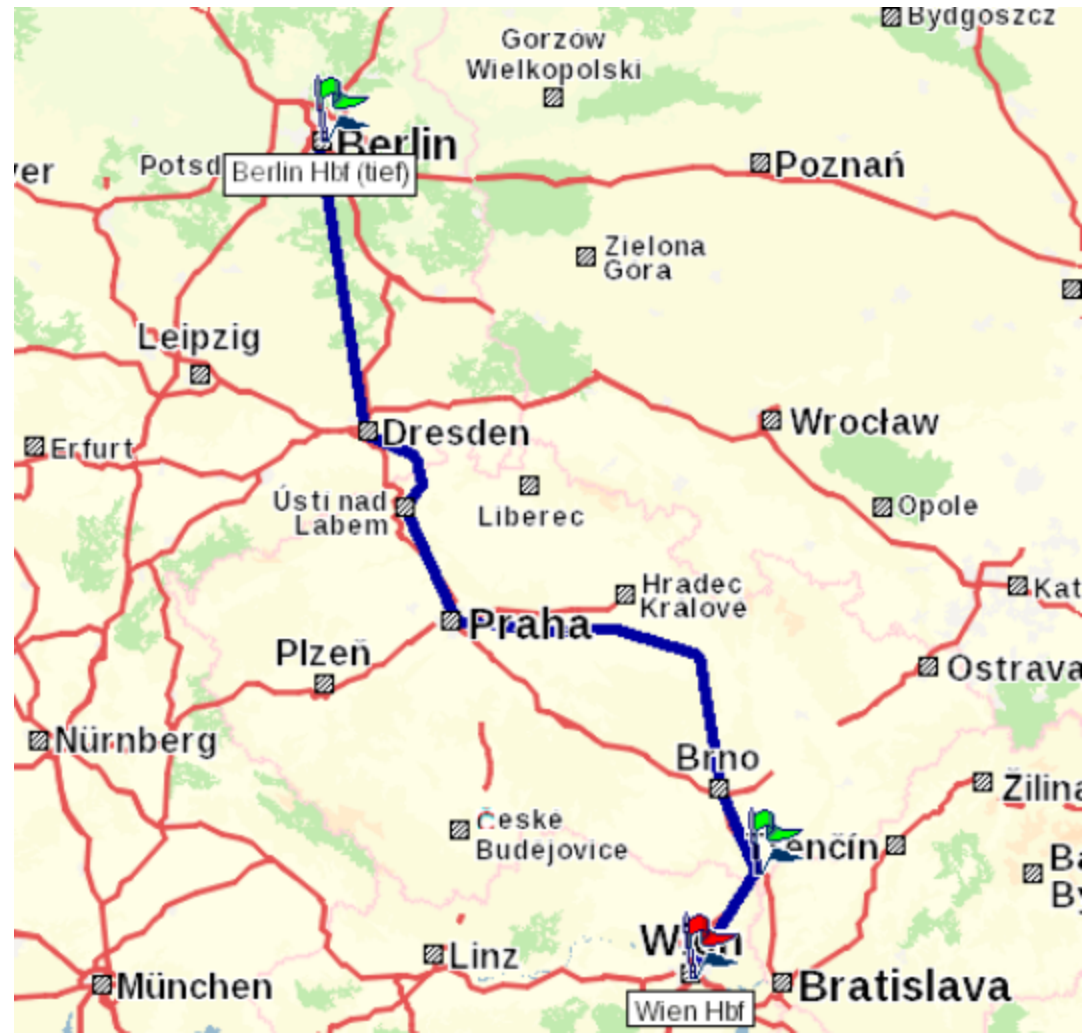
# Background to study

- Frustration with withdrawal of long-distance services, worsening of connections, declining comfort, booking problems
  - → situation deterring captives
  - despite Schengen and favourable policy environment
- Withdrawal of the EuroCity *Vindobona* in December 2014
  - only direct daytime train pair Berlin / Dresden – Vienna
  - anecdotal evidence that well used
  - sacrificed to make way for enhanced Prague – Graz timetable
    - scepticism that Prague – Graz market larger than Berlin/Dresden – Vienna
  - suspicion that passengers would be lost
  - good candidate for analysis

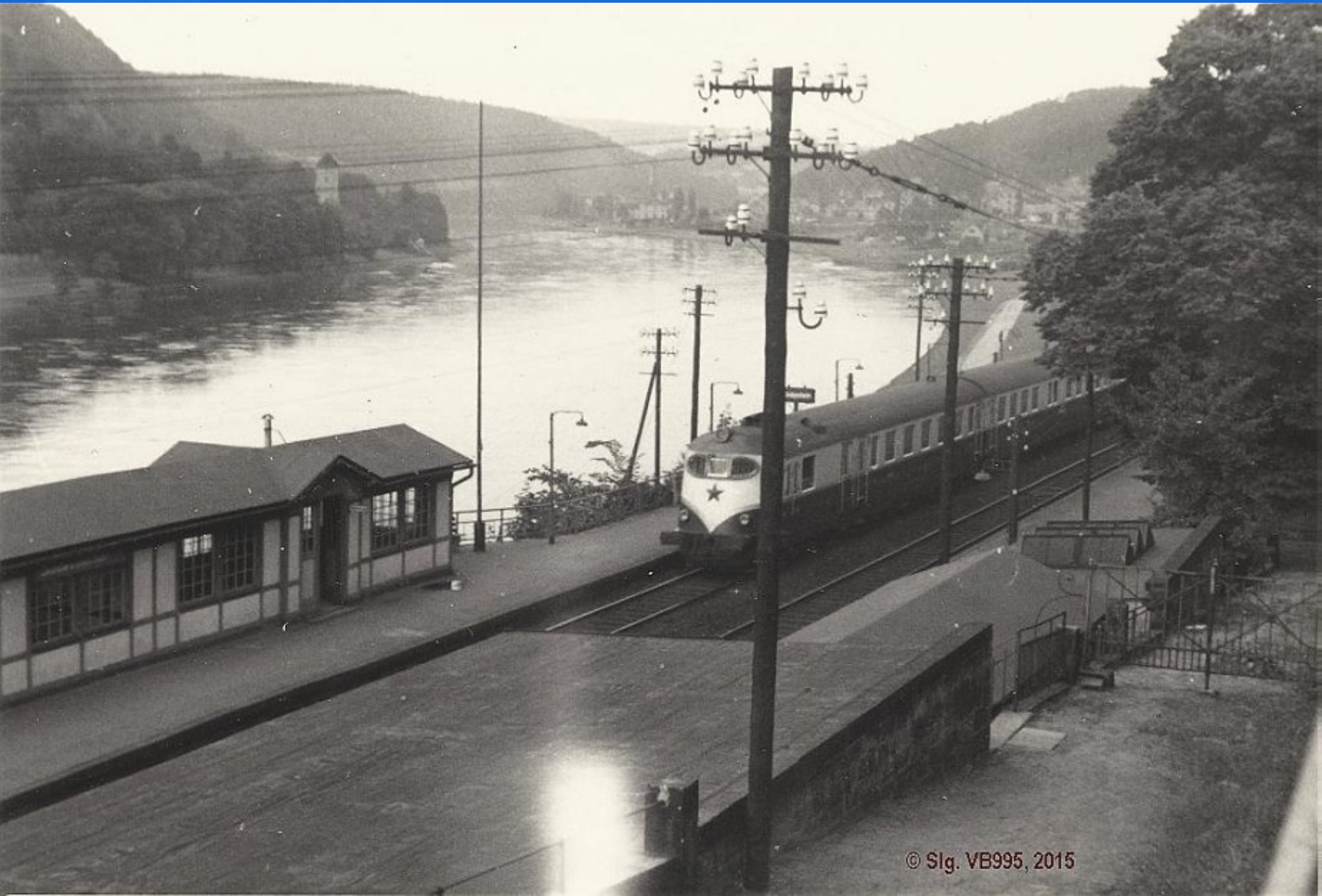


# Case study Vindobona: the offer

- Express latterly EuroCity service on core route  
**Vienna – Prague – Dresden – Berlin**
- Ran continuously 1957 to 13.12.2014









# Case study Vindobona: the offer



## Vindobona

**Berlin-Dresden-  
Bad Schandau-Děčín hl n-  
Praha hl n-České Velenice-  
Gmünd NÖ-  
Wien Franz-Josefs-Bf.**

# Case study Vindobona: the offer

## Ihr FahrPlan

EC 172 Vindobona

Wien–Praha–Berlin

Gültig ab 23. 05. 93

## Ihr FahrPlaner

EC 173 Vindobona

Berlin–Praha–Wien

Gültig ab 23. 05. 93

Die Bahn **DB**

## Ihr Reiseplan EC 172 Vindobona

Gültig ab September 2006

Platz od zdfn 2006



\* 3 ct / Sek., 29 ct pro angefangene Minute ab Nichterhebung zum DB Service-Desk (inkl. USt, excl. Festnetz Df AG)

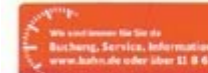


Die Bahn **DB**

## Ihr Reiseplan EC 173 Vindobona

Gültig ab September 2006

Platz od zdfn 2006

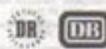


\* 3 ct / Sek., 29 ct pro angefangene Minute ab Nichterhebung zum DB Service-Desk (inkl. USt, excl. Festnetz Df AG)



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Die Deutschen Bahn

Unternehmen Zukunft  
Die Deutschen Bahnen



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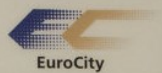
**EC** 172 Vindobona  
EuroCity

**Wien Südbf–Hohenau–Břeclav–  
Brno Hlavní Nádraží–Praha Holešovice–  
Děčín Hlavní Nádraží–Dresden–  
Berlin-Schönefeld ✈–Berlin Ostbahnhof–  
Berlin Zoo–Hamburg-Altona**

DB 180 018-4



# Case study Vindobona: the offer



173 Vindobona

HAMBURG ALTONA -

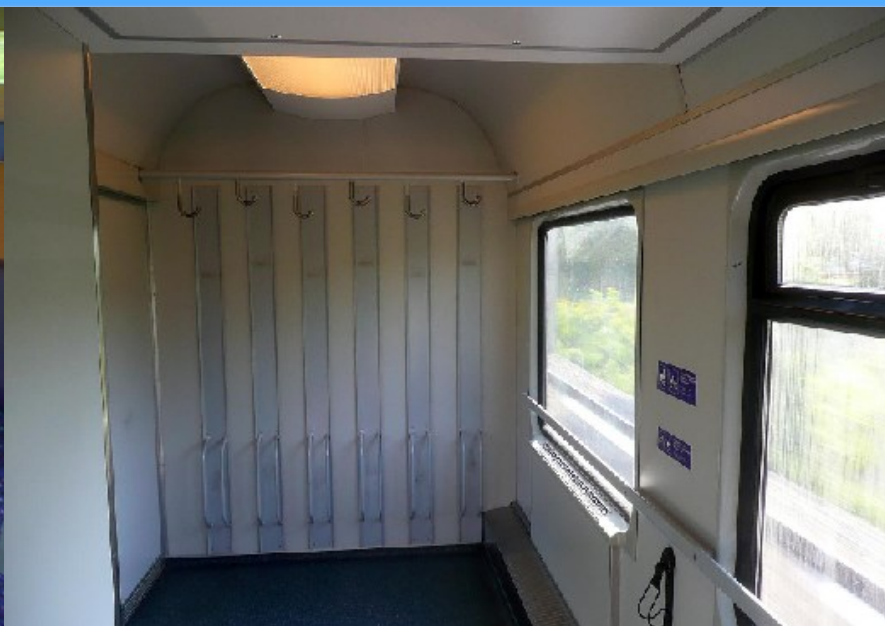
Berlin - Dresden - Praha Hl.n. - Breclav -  
Wien Meidling - Bruck a.d. Mur -

VILLACH HBF

088 HV 173 CVB



# Case study Vindobona: the offer





# Case study Vindobona: the offer

- Express latterly EuroCity service **Vienna – Prague – Dresden – Berlin**
- Ran continuously 1957 to 13.12.2014
- Route adjusted and journey time reduced incrementally
- Only direct daytime connection between the German and Austrian capitals
- Ran as EC 172/173 in 2013–14 timetable:
  - Vienna – Dresden: 7h15;
  - Vienna – Berlin: 9h40;
  - traditional multi-operator cooperation;
  - one-way fares Berlin – Vienna: 39–129 EUR
- Service withdrawn in December 2014 as part of Prague – Vienna – Graz timetable recast agreed bilaterally between ÖBB and ČD



# Case study Vindobona: alternatives

- Alternative options Berlin – Vienna and v.v.:
  - ICE every two hours via Nuremberg with 1-2 changes (9h38) → more expensive, bicycles not permitted

<input checked="" type="checkbox"/>	Berlin Hbf	Tu, 30.06.15	dep	09:34	9:38	2	ICE	<input checked="" type="checkbox"/> No special fares available	197,00 EUR	<a href="#">→ Purchase</a>	<a href="#">→</a>
	Wien Hbf	Tu, 30.06.15	arr	19:12							
Station/Stop		Date	Time		Platform	Products					
Berlin Hbf	Tu, 30.06.15	dep	09:34		13	ICE 597	Intercity-Express Direction: München Hbf				
Fulda	Tu, 30.06.15	arr	12:45		4		Bordrestaurant				
		Transfer time 11 min.					<a href="#">→ Adjust the transfer time</a>				
Fulda	Tu, 30.06.15	dep	12:56		4	ICE 787	Intercity-Express Direction: München Hbf				
Würzburg Hbf	Tu, 30.06.15	arr	13:27		5		Bordrestaurant				
		Transfer time 6 min.					<a href="#">→ Adjust the transfer time</a>				
Würzburg Hbf	Tu, 30.06.15	dep	13:33		4	ICE 27	Intercity-Express Direction: Flughafen Wien				
Wien Hbf	Tu, 30.06.15	arr	19:12		12A-C		Bordrestaurant				


- EC every two hours with change in Prague (10h06; waiting time 77 mins)
- Night train (10h30 – 11h46)






# Case study Vindobona: alternatives

- Alternative options Berlin – Vienna and v.v.:
  - once per day with change in Breclav (waiting time 3 minutes, cross-platform; 9h40 before 12.2015; 9h06 in 2014–15)


	Berlin Hbf (tief)	We, 08.07.15	dep	10:46						59,00 EUR	129,20 EUR
	Wien Hbf	We, 08.07.15	arr	19:52	9:06	1	EC			<a href="#">→ Purchase</a>	<a href="#">→ Purchase</a>
Station/Stop	Date	Time		Platform	Products						
Berlin Hbf (tief)	We, 08.07.15	dep	10:46	1	EC 175	Eurocity Direction: Budapest-Keleti					
Breclav	We, 08.07.15	arr	18:53			Bicycles conveyed - subject to reservation , Number of bicycles conveyed limited ,					
	Transfer time 3 min.					<a href="#">→ Adjust the transfer time</a>					
Breclav	We, 08.07.15	dep	18:56		EC 105	Eurocity Direction: Wien Westbahnhof					
Wien Hbf	We, 08.07.15	arr	19:52	9A-C		Please reserve , Bordrestaurant , space for wheelchairs , Wheelchair space - For call +43 (0) 5 1717 , power sockets for laptop , parent-and-children compartment					

- Flights:
  - 3 carriers; 99 EUR – 155 EUR
  - 10 flights/day; ca. 1h20 in the air
  - 4 EasyJet flights/week from 10.2015
- Coaches:
  - 3 carriers; 19 EUR – 80 EUR
  - 11 direct coaches/day; ca. 8h45



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# Case study Vindobona: hypotheses

- H1. The demand for direct rail services between Berlin, Dresden and Austria is non-trivial despite the journey time
- H2. A significant proportion of Vindobona passengers use it because it is direct
- H3. The loss of the direct service would lead to a significant proportion of users seeking an alternative mode





# Case study Vindobona: research methods

- Research tasks:
  - estimation of absolute through demand in Vindobona in summer 2014
  - determination of reasons for use and prediction of behaviour change if no direct train
- Constrained by limited resources and commercial sensitivity of ridership data
- Solution: seat reservation counts between August and November 2014 as proxy for demand
  - scaling-up required to obtain best estimate
- Passenger surveys on board Vindobona in August 2014
  - all cross-Prague passengers between Wien Meidling and Břeclav asked to complete 1-page questionnaire
  - n= 240 (155 useable completed survey forms)

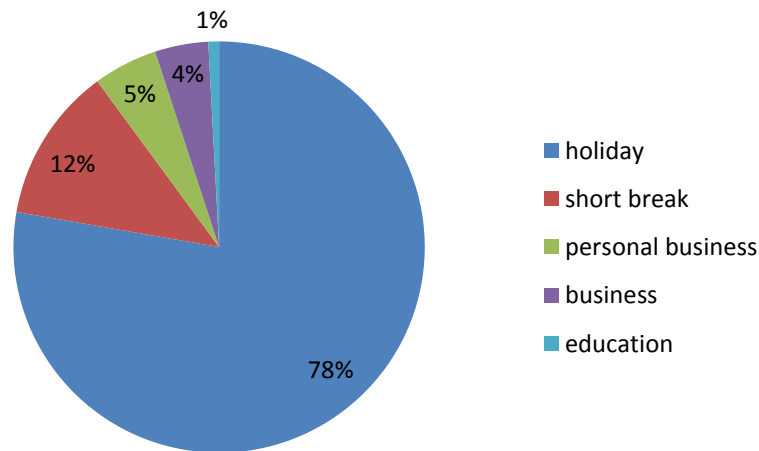


# Case study Vindobona: key findings

- Up to 90 through passengers between Germany and Austria per train

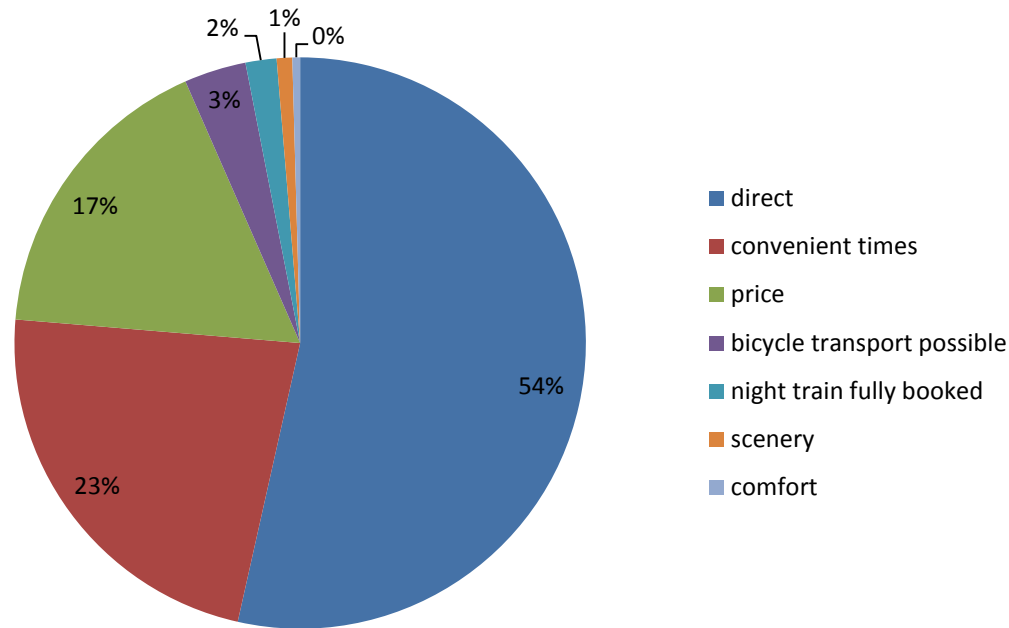
AT – DE reservation counts in EC 172	Maximum w/o scaling	Maximum with scaling	Average w/o scaling	Average with scaling	Scaling factor
August 2014	82	90	49	54	10%
September 2014	34	41	22	26	20%
October –November 2014 (affected by strikes)	55	69	27	34	25%

- On-train surveys in August 2014 dominated by leisure travellers



# Case study Vindobona: key findings

## ➤ Why did you use this train?



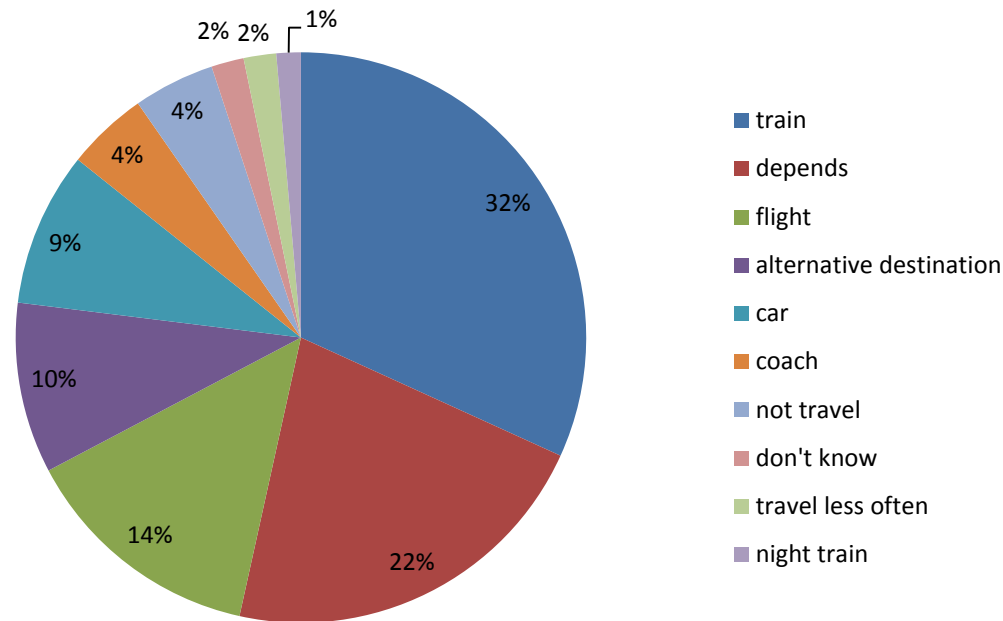
- >50% of respondents cited “no changes”/“direct”
- Convenient arrival/departure times and price also important





# Case study Vindobona: key findings

- What would you do if no direct train?



- Two thirds of respondents would change or consider changing behaviour
- 23% of respondents would fly or use a car
- 22% said it depends on alternatives



# Case study Vindobona: conclusions

- H1. The demand for direct rail services between Berlin, Dresden and Austria is non-trivial despite the journey time
  - up to 90 passengers per train ✓
- H2. A significant proportion of Vindobona passengers used it because the trunk leg was direct
  - 54% of respondents named this reason ✓
    - but price and departure/arrival times influence choice
- H3. The loss of the direct service has led to a significant proportion of users seeking an alternative mode
  - 49% would have used another mode or considered it ✓
    - ➔ environmental and commercial implications
    - but heavily dependent on attractiveness of alternative rail connections
      - ➔ price, number & reliability of connections



# Broader conclusions & recommendations

1. Significant demand likely to exist for rail routes > 4,5 hours
  - 'interchange penalty' is a major barrier to rail use, especially among leisure travellers and the elderly
  - international rail journeys should be as easy to book as flights
  - more research required to document:
    - long-distance international rail services → why is there such inconsistency in the provision and marketing of direct services?
    - volume and characterisation of demand → target market segments
    - low journey time elasticity?
  - operators should sell advantages of rail!
    - targeted marketing → use of travel time / pleasure of travel
2. Are additional operating costs associated with through trains covered by revenues? Case for financial support?
3. Retrenchment of international network must be reversed if EU transport and climate change targets are to be met
  - pan-European strategy? pan-European delivery?





# Broader conclusions & recommendations

4. Investment in infrastructure must be linked to service provision
  - Swiss-style thinking transport planning required: identification of potential → service concept and timetable design → improvement of infrastructure
  - parts of Vindobona route being upgraded → have long-distance services been considered?
  - EU institutions should insist on retention and improvement of services, including long-distance international services
  
5. Direct day trains Berlin – Vienna should be restored!
  - demand exists → competitor modes expanding
  - ! fares advantage partially lost from October 2015 !
  - consider routing via České Budějovice after completion of upgrading of Tábor route → operational advantages and development of new markets



# Thank you for your attention!

## Further reading

Schiefelbusch, M. (2013)  
*Trains across Borders.*  
*Comparative studies on*  
*international cooperation in*  
*railway development.*  
Nomos, Baden Baden.

[http://worldcarfree.net/  
projects/back-on-track/  
index.php](http://worldcarfree.net/projects/back-on-track/index.php)

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